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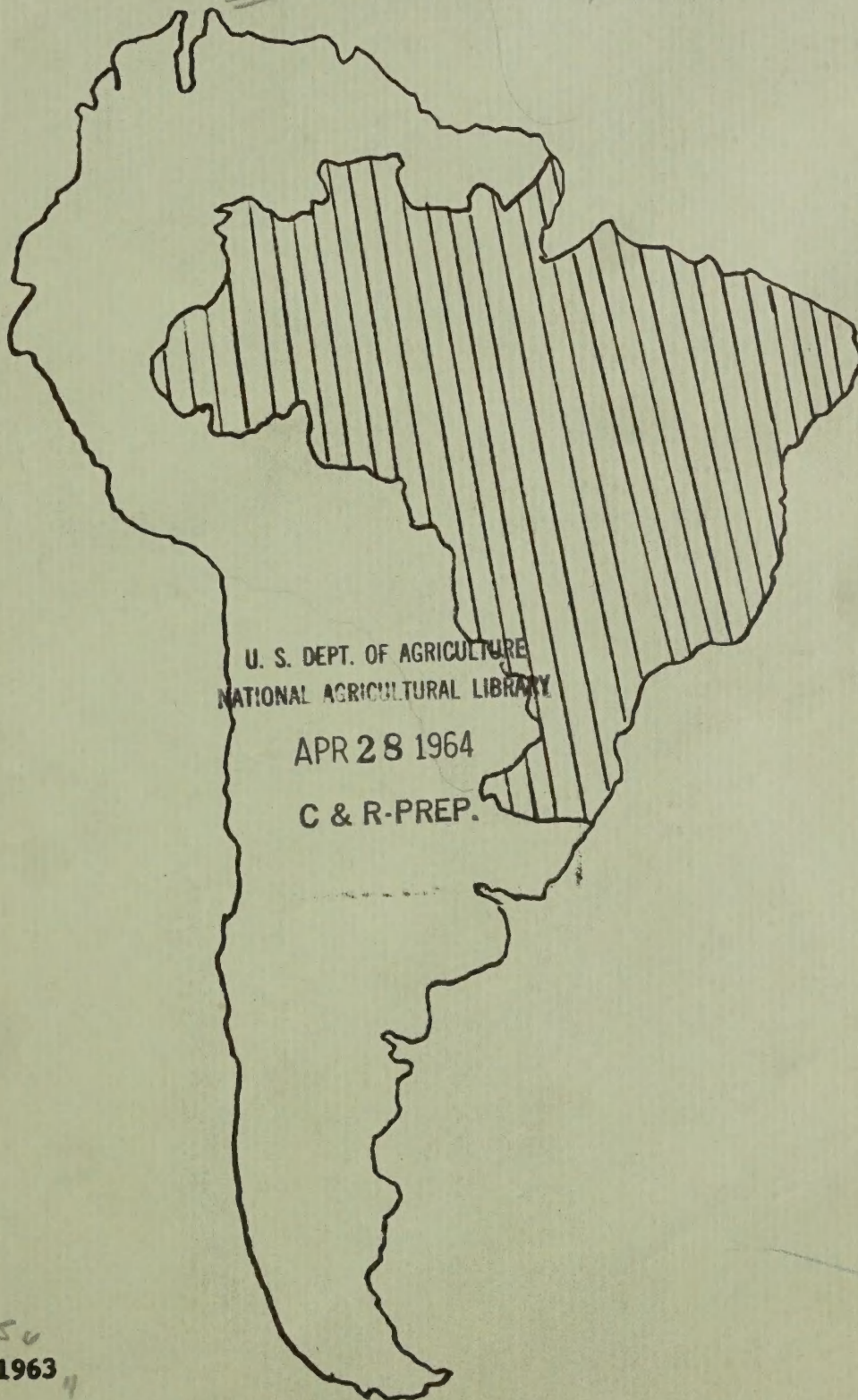
AGRICULTURE AND RURAL DEVELOPMENT

IN

BRAZIL

A Review of the USAID Program

USDA Survey Team Report



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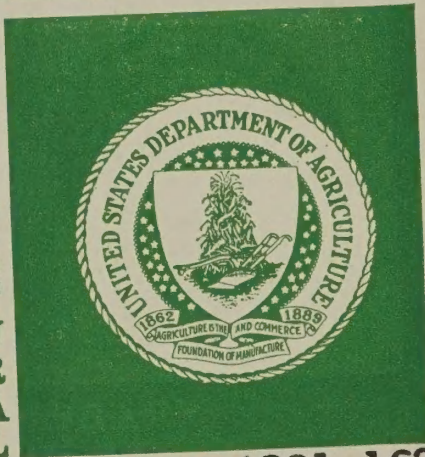
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SUMMARY

A United States Department of Agriculture Survey Team was sent to Brazil in October - November 1963 to review the Brazilian agricultural situation, needs, and possibilities and to recommend the types of technical assistance that might be provided by the Department considering these factors and Brazilian government and United States Agency for International Development policies, programs, goals, and activities. This general report covers that review and provides the background and basis for both a shorter summary report and a proposed Participating Agency Service Agreement between USDA and AID which were also prepared and submitted separately by the Team.

Agricultural development is a requisite for Brazilian economic progress. Such development requires the alleviation or solution of several critical problems, the most important of which relate to transportation, land tenure, land utilization, literacy, agricultural technology, capital, and the multiplicity of government agencies.

The agricultural program of USAID is aimed at assisting and fostering Brazilian agricultural development through the program of the Agricultural and Rural Development Division. Prior to FY 1963 this program consisted largely of a number of small and relatively limited agricultural projects carried out under a Servicio arrangement.

In FY 1963 a new approach was taken and funds for agricultural development were increased sharply. Changes included: the establishment of over-all objectives to be achieved through a series of goals and activities; the administrative division of Brazil into the Northeast and the rest of the country; and emphasis on contract personnel as opposed to direct hire. Under the proposed FY 1964 program, over-all objectives as modified, one program has been developed for the country, and the emphasis on contract personnel continues.

The FY 1964 program as now proposed has as its objectives the expansion and diversification of agricultural exports, improved food supplies, and better land resource distribution. Such objectives emphasize increased production and exports of livestock and livestock products, sugar, dehydrated onions, rubber, and cocoa. Major goals are related to education, frontier development, marketing, and livestock production. A number of activities under these goals involve both AID funds and personnel. Estimated personnel needs to carry out this program in FY 1964 and FY 1965 total 204, of which 22 are direct hire and 182 are contract personnel, including 55 short-term contract personnel.

The USDA was requested under the FY 1963 program to provide 24 specialists, including 2 short-term, to assist in meeting personnel needs to carry out this program. Under the proposed FY 1964 program, the USDA has been requested to consider the provision of 55 specialists, including 18 short-term. This did not include allowance for a USDA Chief of Party and any other necessary supporting personnel.

The Team recommends that USDA undertake to provide resident personnel and primary program responsibility to carry out technical assistance related to the following proposed activities: cooperatives; credit; estimates and forecasts; market news; economic analysis; land transfer; and disease control. In addition, the Team recommends short-term assistance as needed to assist in carrying out these and other proposed USAID activities. Including two people for the Chief of Party's office, a total of 18 resident personnel is recommended of which 6 would be provided in FY 1964, 8 in FY 1965, and additional 4 in FY 1966. Short term personnel needs are estimated at 7.0 man-years for the three-year period to provide technical backstopping both for resident personnel engaged in the primary responsibility areas and short term technical assistance for other USAID activities.

INTRODUCTION

For the past two years efforts have been made by the Agency for International Development to maximize the use of contracts to keep direct hire personnel to a minimum. This has resulted in contractual arrangements with many organizations to undertake work related to agriculture and rural development programs, with primary emphasis on Land Grant Colleges and more recently the United States Department of Agriculture.

The Secretary of Agriculture has expressed the desire to cooperate with AID to the maximum extent possible as requested by AID. To this end a USDA-USAID agreement was signed in May of this year for the Department to carry out a portion of the program in El Salvador through a USDA mission stationed in that country. Since that time AID has indicated an interest in similar arrangements for ten additional countries in Latin America. Also, the Secretary established in August, 1963 the International Agricultural Development Service as the agency responsible for handling cooperation with AID.

In March, 1963 a USDA team went to Brazil to evaluate USAID agricultural program goals. Subsequently AID requested, through PIO/Ts, that USDA make available 22 specialists for assignments of two years or more to assist in Brazil, as well as two other specialists for short term assignments (Incl. 1). Logistical support, including office needs, for USDA personnel requested was to be provided by AID, except for the first three positions listed where office needs would be provided by the Ministry.

USDA took the position that assistance to AID would be provided, on the basis of recommendations of a special Survey Team to Brazil, through the establishment of a USDA mission in Brazil rather than by supplying personnel to that agency. The composition of the USDA mission and many of the details of its operation were to be determined based on recommendations of the Survey Team to Brazil which prepared this report. The Team was authorized on a reimbursable basis.

The Team mission was to analyse the Brazilian agricultural situation, needs, and possibilities and to ascertain what assistance might be provided considering these factors and Brazilian Government and AID policies, programs and goals. The basic report which follows covers this area and is the basis for a proposed AID/USDA Participating Agency Service Agreement also prepared by the Team.

Eight specialists were selected for the Team to assure broad coverage and to represent the agencies concerned to the extent possible after discussions both with AID and within Department.

Team members were as follows: Team leader, Charles R. Davenport, Chief, Western Hemisphere Branch, Economic Research Service; Deputy Team leader, Roy D. Hockensmith, Director, Soil Survey Operations. Soil Conservation Service; Martin A. Abrahamsen, Deputy Administrator, Farm Cooperative Service; Jerry Goodall, Chief, Program Analysis Group, Livestock Division,

Agricultural Marketing Service; E. P. Rogers, State Director of the Farmers Home Administration, South Carolina; Robert C. Reisinger, Assistant to the Director, Animal Inspection and Quarantine Division, Agricultural Research Service; Raymond C. Scott, Director, Marketing and Utilization Sciences, Federal Extension Service; and Robert S. Temple, Coordinator of Southern Regional Beef Breeding Project, Animal Husbandry Research Division, Agricultural Research Service.

The Team spent three days in intensive briefing sessions in Rio with the Ambassador, the Agricultural Attache, Food for Peace, Brazilian Federal Ministry of Agriculture, and USAID officials. Following this, approximately two and one-half weeks were spent in the field to determine problems first hand. Upon completion of the field work, the team spent two weeks in further discussions with Brazilian and USAID officials and others in Rio and prepared the report which follows. Discussions were held with persons familiar with all phases of Brazilian Agriculture, including AID and other Embassy and Brazilian officials, firms, and farmers (Incl. 2, 3).

THE BRAZILIAN ECONOMY

Brazil is larger than the continental United States excluding Alaska and has extensive industrial and agricultural resources. It has a rapidly growing population estimated at 73.0 million in mid-1961 with a rate of increase of about 3.1 percent per capita (1947-61). Starting in mid-1961 the rate of increase of the GNP slowed down and is estimated at less than the rate of population growth in mid-1963.

Brazil's economy is heavily dependent upon agriculture although manufacturing became a more important contributor to the GNP in 1960. Agriculture accounts for almost one-third of the national product and about 80 to 85 percent of the total foreign exchange earnings, coffee alone accounting for over half. Almost two-thirds of the population is rural and about half of the labor force is employed in Agriculture. About 50 percent of the population is illiterate and the percentage is considerably higher in rural areas. About two-thirds of the country is sparsely occupied with about two percent of the total area in crops and more than half in forest. Total agricultural production increased from an index of 127 in 1958/59 to an estimated 145 for 1963/64 (1952/53 - 1954/55 equals 100). Total per capita production decreased from 108 to 107 for the same period. Food production per capita also decreased from 108 in 1958/59 to 107 in 1963/64. Brazil is largely self-sufficient in food except for wheat, the world's largest producer of coffee and kidneybeans, and stands in third place in corn and livestock production.

Preliminary USDA food balance sheets for Brazil indicate that the situation has improved comparing the period 1956/58 with 1959/61. For the earlier period, caloric consumption was estimated at 2,610 calories per capita per day increasing to 2,710 calories per capita per day in the latter period. Protein and fat consumption also increased slightly. The increase in consumption was brought about primarily by an increase in cereal products. Also increasing were sugar and vegetable oils. A decline was experienced in meat consumption.

In spite of production increases the Brazilian economy has experienced political instability, serious regional and structural difficulties, severe inflation, mounting social unrest and chronic foreign exchange problems in recent years. The rural population has been in a depressed condition as a result of prevailing types of agricultural systems, land holding patterns, inequitable prices, and production and marketing problems, particularly in the Northeast. Brazil has a wide diversity of geographic conditions and divisions of the country into regions vary (Incl. 4).

Brazilian Government policies have been announced as being directed generally toward increasing economic productivity and the maximization of foreign exchange earnings. Agricultural policies have been directed toward increased export earnings from Agriculture.

In December 1962 Brazil prepared a three-year economic and social development plan for the period 1963-65 which continues the same general policies as in the past but it attempts to quantify and coordinate overall economic development. This plan called for an economic growth rate of 7.0 percent per year or 3.9 percent per capita. Progressive slowing of inflation was planned by cutting the 1962 rate of increase by half in 1963 and by 90 percent in 1965.

This plan has been outdated in the meantime by other developments, including continuing inflation. The official rate of CR\$ 460 per dollar in April has been increased to CR\$ 600. The comparable free market rate has increased from CR\$ 600 to CR\$ 1,100.

Agricultural goals in the Brazilian plan included: increased food production to meet demand and its potential structure; correction of distortions and deficiencies in the production of export commodities; increased production of better quality raw materials for the domestic market; and lessening of the dependence on coffee exports. An important part of the implementation of this plan was to increase the production of livestock products for consumption and export. Ultimately was hoped to achieve exports of \$200 million annually from beef.

BRAZILIAN GOVERNMENT AGRICULTURAL ORGANIZATION AND OBJECTIVES

Agricultural development is a requisite for Brazilian economic progress. The agricultural sector is the source of livelihood for the bulk of the population, increased food supply, manpower for industry, capital accumulation, foreign exchange, and increased demand for industrial products. The alleviation or solution of several crucial problems is required if Brazilian agriculture is to develop. Moreover, such problems most probably must be solved within the broad institutional framework peculiar to Brazilian agriculture. The general organization and objectives of the Brazilian government and related institutions constitute this framework.

Agricultural Problems

Brazilian agricultural problems vary considerably by region and stem from many facets. The over-all problem is one of parallel development of human and natural resources in the agricultural sector. Strategic aspects of the overall problem relate to transportation, land tenure, land utilization, literacy, agricultural technology, capital, the multiplicity of government agencies, and a combination of these areas.

The lack of adequate transportation is a central problem affecting production, marketing, and development of the interior of the country. A large part of Brazil is virtually isolated by the lack of transportation where such facilities are either inadequate or entirely lacking. It has been estimated that most of the country's transportation facilities lie within a coastal belt 300 miles wide. Here are found approximately 91 percent of the railways, 75 percent of the roads, 89 percent of the population and 95 percent of the cultivated land. New settlers have been moving into the uninhabited regions of Brazil along transportation routes as rapidly as such routes are opened.

The existing system of land tenure is a serious handicap to agricultural development. The majority of farms are too small for the farmers to apply modern methods to significantly increase both output and income. Many such farmers are both deficit in basic needs and outside the market economy. Moreover, they are a source of economic and political instability and have little prospect of contributing to Brazil's economic progress. Complicating this problem is the lack of a cadastral survey and conflicts over property boundaries with many farmers occupying land without titles.

Land utilization problems are twofold: large areas in the interior have not been developed although they are potential agricultural areas; and much land is in large holdings and is either idle or underutilized. This situation precludes the solution of the land tenure problem within the agricultural sector, the possible absorption of excess urban population in agriculture, and the utilization of population increases in agriculture.

The low level of literacy is a problem in Brazil and it is particularly critical in rural areas. About half of the total population of Brazil is illiterate, the rate reaching an estimated two-thirds for rural areas. In some areas of the north and northeast it is estimated that less than 15 percent of the rural population is able to read. This is a severe handicap to carrying out the advancement of agriculture through integrated research and extension programs. It is also a handicap to rural organizations and the cooperative efforts of farmers to solve their own problems.

Brazilian agriculture generally employs a low level of technology. Only on some large commercial-crop farms and ranches modern methods and techniques are used, usually in the production of commodities for export. However, this is in sharp contrast to the practices of the majority of Brazilian farmers. The proper application of technical assistance by farmers could increase Brazilian agricultural production sharply, its more immediate possibilities being with the minority of farmers accounting for most production.

Capital shortages are a serious impediment to technological improvements and constitute a problem to the continuation of even traditional production systems. Long term credit is virtually nonexistent and short term credit is completely inadequate. This involves a whole series of institutional and economic problems ranging from the credit system itself to continued inflation.

The multiplicity of government agencies involved in agricultural development is a severe burden and a situation which Brazil can ill afford with her limited resources, including shortages of both funds and trained manpower. As a result, there is a duplication of effort in many instances and work is ineffective in others. There is a strong tendency on the part of government agencies to involve themselves in areas which traditionally have been recognized as private enterprise fields in the western world. This tendency is mainly in the area of the operation of enterprises with an almost complete lack of appreciation of the role of government in providing necessary agricultural services. As a result, many needed services are either nonexistent or unsatisfactory. There is a great deal of planning underway, much of which is occupational and often either impractical or beyond the country's means and immediate needs. This problem is broader than the organization of the Ministry of Agriculture since many other government agencies are involved. Also, the reorganization of the Ministry of Agriculture under the Law of October 11, 1963 may improve the situation in this instance. However, over a year has passed and many of the reforms in the Ministry as provided for in the legislation have yet to be carried out.

There are many other problems affecting Brazilian agricultural development involving a combination of these areas which stem from government policies and conditions peculiar to Brazil. These problems range from

foreign exchange rates and price controls to problems of tropical agriculture. A crucial factor is the almost complete absence of a satisfactory system of public administration, including a civil service system. The frequent result is a kaleidoscopic fluidity in organization, "problems", policies, plans, programs, activities, personnel, and continuity of operations.

Government Organization and Objectives

The constitution of Brazil provides for a democratic government modeled to a considerable degree after that of the United States. The President is elected for a period of five years and the legislative system is composed of a series of ministries and specialized organizations. The outstanding characteristic of the executive branch organizations is that there is a multiplicity of ministries and special organizations with overlapping functions and little effective machinery for coordination of their respective functions.

Government organization and objectives as related to agricultural development are complex. Moreover, this situation is complicated by the existence of many interrelated quasi-government and non-government entities (Incl. 5,6).

USAID AGRICULTURAL ORGANIZATION AND OBJECTIVES

In Brazil, USAID agricultural program policies shifted considerably in FY 1963. Previously, the USAID program consisted largely of a number of small and relatively limited and uncoordinated agricultural projects carried out through a Servicio (Incl. 7). The new approach taken was for a concentration of efforts and a greatly expanded program to achieve results as rapidly as possible. As a consequence, total AID funds available for Brazil for agricultural development were increased sharply and concentrated very largely on increasing livestock production and supporting services (excluding the Northeast). At the same time, operational policies were changed considerably, particularly as regards personnel. Efforts were made to maximize the use of consultants and service contracts and to keep direct hire technicians to minimum levels (Incl. 8, 9).

In FY 1963 there was a separate USAID program and Mission for the Northeast for the SUDENE area. It was designed to be a crash program through SUDENE to improve the impoverished lot of one-third of Brazil's population in this area. The program consisted of Goal Plan A for community health, water supply, and rural electrification and housing; Goal Plan B for economic research and social planning, education, agricultural education, and industrial development; and Goal Plan C for agricultural production and marketing, fisheries, water resource development, and colonization and resettlement. Through September 30, 1963 a total of \$103.4 million in dollars and cruzeiros had been obligated for these goal plans. Of this total, \$4.2 million equivalent or 4.0 percent went for Goal Plan C, the area relating primarily to agricultural development. Of this \$4.2 million, 3.3 percent went for agricultural production and marketing to be used for fertilizer demonstrations; 1.3 percent for fisheries; 18.0 percent for water resources development; and 77.4 percent for colonization and resettlement. Water resources development consisted of river basin studies for the Piranhas, Rio Moxots, Rio Acaraú, and Rio Grande; the collection of hydrologic data; metrological services; and technical assistance in irrigation. Colonization and resettlement efforts were in Pernambuco.

USAID plans for 1964 are to have one agricultural program for all of Brazil, combining that for the Northeast and for the rest of the country. Since the crash stage has been passed in the Northeast and there is a growing realization that the area's problem cannot be economically solved internally, at least in the long run, the new "Brazil" program planning is based largely on program lines developed for the rest of the country in FY 1963 with some modifications.

FY 1963 Program Goals and Activities - Excluding the Northeast

Agricultural program goals for FY 1963 and 1964 were originally proposed by USAID in December, 1962. Goals against which specific activities were developed covered three areas: Agricultural education; improved feed and food distribution; and livestock development.

Agricultural Education - The goal was to improve secondary and college level agricultural education.

Agricultural education activities were expected to provide longrange support for agricultural development generally as well as for the live-stock development program.

Activities planned to achieve this goal included contracts for U.S. Universities to work with Brazilian agricultural colleges at Piracicaba, São Paulo; Porto Alegre, Rio Grande do Sul; and Vicosia, Minas Gerais. Under these contracts, other activities were also included such as research and advisory services to state governments. Another activity was financial aid for agricultural secondary education.

Improved Food and Feed Distribution - The goal was to reduce marketing losses of food and feed crops estimated by USAID from 25-30 percent to 10 percent and to reduce marketing margins and fluctuations in supplies while maintaining the present 3-5 percent annual rate of agricultural production increase estimated by USAID.

To realize this increase in production, it is planned to place emphasis on food crops (beans, rice, potatoes, manioc, and onions) and feed crops for domestic use. Marketing programs, including storage, were expected to complement the proposed livestock development program.

Activities carried out were the Weitz-Hettelsater feasibility study of cataloging storage and processing structures and problems, including plans for improved facilities and an improved marketing system. Other activities planned but not carried out included marketing training and establishing of an "ever-normal" granary of food stocks.

Livestock Development - The goal was to double the production of meat and other livestock products by 1970, providing an increase from 4 billion pounds of meat in 1961 to 8 billion pounds in 1970 to meet Brazilian needs and to provide exports of beef and other livestock products at a level of \$250 million by 1970.

Brazilian meat production totaled 2.41 million M.T. in 1961 (including estimated unreported slaughter) and the proposed production plan potential aimed at is 4.72 million M.T. in 1970 (Incl. 10, 11). Achievement of the 1970 production assumed sharp increases in beef, pork, and poultry meat with little or no increase for mutton and goat meat.

According to USAID estimates, domestic consumption of meat was about 2.35 million M.T. in 1961 with the balance going to exports, losses, and stock adjustments. Probable consumption in 1970 would be about 3.75 million M.T. with a balance of about 0.97 million M.T. for export if proposed goals are achieved for all classes of livestock. Minimum and satisfactory levels of consumption from a nutritional point of view were also

estimated to be about 2.45 million M.T. and 4.90 million M.T. in 1961 and 3.30 million M.T. and 6.60 million M.T. in 1970.

Exports of 0.97 million M.T. of beef in 1970 would provide an estimated return of from \$250 million to \$342 million, depending upon products exported and world meat prices.

The production increase aimed for was to be stimulated by joint Brazilian-USAID programs by increasing feed and forage production, by improving credit and market facilities, and by providing advisory services which were established as sub-goals.

The increased feed and forage production sub-goal had as its objective to improve the production of livestock feed and forage as well as management practices through research on basic production problems and by increasing the domestic supply of seeds and fertilizer.

Specific activities planned were IRI research contract, a seed improvement contract, a feasibility study on increased fertilizer use, and imports of fertilizer and insecticides. The fertilizer feasibility contract and the IRI research contract have been signed. Planned loan activities for imports of fertilizer and insecticides and the seed contract have not materialized.

The credit and marketing sub-goal was aimed at reduction of losses in the value of livestock products during the marketing process from present estimates of about 25 percent to 10 percent, substantially reducing marketing margins, improving product quality and reducing costs, increasing the availability at the farm level of essential inputs, and expanded availability of agricultural credit to meet needs of livestock farmers.

Activities planned included a marketing study, improved market facilities, increased credit, improved credit administration, credit advisory services, improved economic services, and the improvement and expansion of cooperatives:

A. Marketing study. It was planned to conduct a complete survey to identify facilities and services needed to assure an efficient flow of livestock and livestock products from the producer to the consumer, as well as to indicate required adjustments in marketing practices. The survey was to determine type, location, and capacity of necessary facilities and personnel and operating requirements. It would extend to meats, dairy and poultry products, and fish. This contract work was to start during FY 1963 and require around nine months for completion.

B. Improved market facilities. The proposed marketing study was expected to result in the recommendation for processing, storage and

other facilities. Development loan funds needs were anticipated for the construction of such facilities.

C. Increased credit. An Executive Coordinating Group for Rural Credit (GECRE) has been established with the objective of planning the organization and procedures for an expanded and improved rural credit system, to draft appropriate legislation, train needed personnel, and lay the overall ground work for more adequate rural credit. More adequate rural credit includes both short and long-term producer loans and operating and facility loans for cooperatives and other enterprises serving agriculture. To assist GECRE, a three-man consultant team from the Department of Agriculture arrived in January 1963. The GECRE planning was expected to be completed by June 1964. The plan was expected to recommend an increase in credit and the establishment of a banking system for agricultural credit. AID loan funds were expected to be necessary to provide credit funds.

D. Credit administration. Direct-hire technical assistance was planned for the agricultural credit system to be established as a result of the GECRE program.

E. Credit advisory contract. A technical assistance contract was planned to provide personnel to work with the agricultural credit system to be established as a result of the GECRE program.

F. Economic services. Along with measures to improve the marketing infrastructure and to increase the volume of produce to be marketed, it was considered necessary to improve and increase the volume of essential market information reaching farmers in order that both production and marketing programs can react in an orderly manner to actual market requirements. Needed services hardly existed although the need for them had long been recognized.

Contracts were planned for the services of three specialists, in agricultural statistics, grades-and-standards, and market news reporting, to help the Ministry of Agriculture organize these services and provide on-the-job training, both functions to be performed in the field offices as well as the Rio headquarters.

G. Cooperative advisory services. Technical assistance for cooperatives was planned to assist Brazilian farmers to organize for the purpose of utilizing financial resources and managerial skills in conducting their marketing and production programs. The utilization of Food for Peace grains was to be considered.

Of the above activities, the credit study and cooperative advisory services have been carried out.

The advisory services sub-goal had as its objective to assist the Ministry of Agriculture, ABCAR, and state agencies in the planning and operation of programs designed to aid farmers in producing and marketing livestock.

Activities planned included management, ABCAR support, state extension support, and disease control:

A. Management. Better livestock management and practices were to be aimed at through the provision of extension advisors and livestock feeding and management specialists. Such personnel would support ABCAR and other governmental agencies, livestock associations, cooperatives, and informal cooperating programs. Technical and planning assistance was planned for federal and state groups as requested.

B. ABCAR. The national extension program through ABCAR is the prime means of educating small farmers in an organized, sustained, and mass-scale manner. The ABCAR five-year plan was to be supported. An evaluation of extension services was also planned.

C. State extension services. Grants were planned to assist in the extension or field services of the state governments of São Paulo, Minas Gerais, and Rio Grande do Sul.

D. Disease control. A program was to be devised by an advisor and consultants. Increased vaccine supply was expected to be necessary.

FY 1964 Program Goals and Activities - Including the Northeast

Proposed program goals and activities have been tentatively developed by USAID/ARD in FY 1964 to be carried out in FY 1964 and FY 1965.

The overall country-wide program objective proposed continues to emphasize livestock production, but has been broadened to include: expansion and diversification of agricultural exports; improved food supplies; and improved land resources distribution. Expanded exports are now to include livestock and livestock products; sugar; dehydrated onions; rubber; and cocoa. Major goals proposed remain substantially unchanged, except for the addition of a new goal of frontier development, although the presentation, format, and activities have been changed considerably. There have also been some changes proposed in sub-goals and activities under education, marketing (the old food distribution goal broadened), and livestock production and in personnel needs (Incl. 12).

Education - The goal proposed is for a continuation and expansion of activities.

Frontier Development - The goal proposed is to assist in relieving the socio-economic problem of the northeast by improving the levels of

living of one million impoverished farm families; reducing political tension; increasing the production of livestock and food crops; and providing opportunities for clear-titled and economic farm units for small farmers through several activities.

A migration study is planned to determine movements characteristics of migrants, settlement problems, factors in success, and migration motivation. Also to be studied is the Araguaia-Tocantins river basin.

A resource survey is proposed to determine best settlement areas with emphasis on Goiás, Mato Grosso, Maranhão, Bahia, Paraná, and Amapá. Cooperating would be SPVEA, CIVAT, SUDENE, Bank of the Northeast, Bank of Amazonas, Ministry of Agriculture, state governments, other federal entities, and international groups such as FAO, OAS, and CIDA. Estimates are that land is needed to settle 7-10 million people in 10 years.

A resettlement project to assist 30,000 families to relocate by FY 1965 planned.

A land transfer activity is proposed to include research and technical assistance and very limited financial assistance in development of a system to ensure efficient land use and improving the system of land description, title clearance, transfer, and registration.

Marketing - This proposed goal includes the old food distribution goal and credit and marketing formerly under the livestock production goal. The goal is to correct deficiencies in commercial operations of Brazilian farmers. Sub-goals proposed include farm supplies, cooperatives and credit, food distribution, and economic services.

The farm supplies sub-goal includes fertilizer, balanced feeds, and seed improvement activities.

The proposed fertilizer activity includes the feasibility study as the first phase and engineering design of specific plants as the second phase.

A balanced feeds activity is proposed to include advising on mixed feed plants and training.

A seed improvement activity to establish a seed certification system, including adequate federal and state legislation, is planned. Technical assistance in seed technology and the development of a private seed industry are called for.

The cooperatives and credit sub-goal includes cooperation and credit activities.

The proposed cooperation activity includes three sub-activities: training of institutional and operating personnel; strengthening government institutions; and provision of management advisory services to cooperatives.

The credit activity is proposed to implement the 1963 credit team recommendations for establishment of a satisfactory system of agricultural credit.

The food distribution sub-goal includes storage, information, and marketing infrastructure.

A proposed activity to deal with the storage shortage includes education, research on limitations affecting storage, establishment of model storage units, and construction of storage facilities through loans from Brazilian credit funds.

An information activity for film and book reproduction and distribution is planned.

An activity is proposed to improve marketing infrastructure by training and establishing new efficient and competitive facilities and organizations. Engineering studies are also planned.

The economic services sub-goal includes three technical assistance activities: crop production estimates and forecast; market news reporting and agricultural economic analysis. A northeast marketing activity is also planned to provide for a comprehensive marketing study for the area.

Livestock Production - Although the goal remains unchanged, proposed sub-goals and activities have been reorganized and some changes are indicated.

The proposed research sub-goal is to raise the level of knowledge and improve varieties and techniques from extremely deficit to "moderate needs" levels. Problems include corrective measures for limiting soil factors; improved varieties of field, vegetable, and forage crops; livestock management; and better utilization of research talent and expanded training programs.

Activities proposed include a contract to develop a well organized research program; and the assembly, cataloging, and distribution of research results. The first activity will cover most of Brazil except for the northeast; the second will cover the northeast.

The proposed improved practices sub-goal covers both institutional development and development program activities.

The institutional development activity covers improving and expanding ABCAR in accordance with the 5-year plan.

The development program activity covers several sub-activities.

The pasture and forage sub-activity proposes to establish 15 area centers in several states in 1964 and an equal number in 1965. Planting

materials for pasture and forage will be produced and distributed and some training and demonstration work will be carried out.

A livestock and water supplies sub-activity is planned to provide water for livestock in the northeast from wells and ponds.

A proposed livestock and feed sub-activity will develop formal short courses for formal training of agricultural workers.

The proposed livestock disease control sub-activity is aimed at developing a program in this area.

A proposed sub-activity for state programs is aimed at establishing forage multiplication plots, feed and forage demonstrations, and simple research trials in states to test varieties, practices, and management.

USAID Goals and Activities of Direct Interest to USDA

Activities in which USAID has an interest in securing USDA assistance relate to frontier development, marketing, and livestock production goods (Incl. 12).

The sections of the report which follow are addressed to these goals and activities under the following headings: frontier development; development of cooperatives; agricultural credit; improved food distribution; livestock pasture, forage, and feed; and disease control.

FRONTIER DEVELOPMENT

The rural population of Brazil makes up almost two-thirds of the country's total. Of this proportion, it is estimated that up to three quarters either do not own land or operate uneconomically small farm units. Many live in extreme poverty and subsist on inadequate diets. This is particularly true of Brazil's northeast area, where heavy overpopulation on resource-deficient land is resulting in unrest. In the northeast there is an estimated need for one to two million jobs at the present time and an expected need for 300,000 additional new job opportunities per year. A shortage of farm opportunities exists in some areas outside the northeast, but it is more acute in this area. To create additional opportunities in agriculture or in agriculture-based industries, there is a need to intensify agriculture. This should be done in areas where the greatest yield can be attained, measured in terms of new opportunities per unit of investment, under basically sound programs of economic development.

Brazil has great areas of undeveloped lands, more accessible areas being of Mato Grosso, Goiás, Bahia, Maranhão, Pará and Amapá which could offer major relief to this problem and bring appreciable areas into the economy of the country. Other areas include Amazonas, Roraima (Rio Branco), Rondonia, and Acre.

The economic development of Brazil may continue to draw rural workers to centers of production. But opportunities are limited as compared to rural opportunities and the vast number of underprivileged rural laborers. The large majority of them will remain on the land both by preference and necessity. Thus, improving the lot of these millions of farm people and making them self-sufficient and contributors to agricultural production is an important goal.

The Brazilian attitude to "frontier development" is illustrated by the many agencies concerned and their functions, planning being generally ahead of activities (Incl. 5, 6). In addition, several states are actively working on opening new areas for settlement, including Maranhão, Pará, Goiás, and Mato Grosso. Transportation development is important, especially roads. Planning encompasses large areas but activities generally relate to federal and state owned land. Activities range from elaborate plans to simple land disposition.

The USAID goal proposed is to relieve the socio-economic tensions of the northeast by: improving the level of living of one million farm families; reducing political tension; increasing production of livestock products and food crops; and providing opportunities for clear-titled economic farm units for small farmers.

Proposed 1964 USAID activities include a migration study, a study of the Araguaia-Tocantins river basin, a resources survey, resettlement, and

land transfer. Such activities appear not to have been fully coordinated with Brazilian agencies concerned as yet. AID is interested in possible USDA assistance in three of these activities: resources survey; resettlement; and land transfer which are considered below (Incl. 12).

Resources Survey

One of the early steps recommended by USAID in the frontier development program is an exploratory resource survey to determine where best opportunities exist for increased agricultural use of land in the frontier areas, especially in Goiás, Mato Grosso, Maranhão, Bahia, Pará and Amapá. Such an exploratory survey would be carried out jointly with the Ministry of Agriculture and in cooperation with other agencies, e.g. SPVEA, CIVAT, SUDENE, Bank of the Northeast, Bank of Amazonas, various state government agencies, and other federal entities and international groups, especially FAO, OAS, and CIDA.

USAID feels that this exploratory survey should eliminate immediately areas clearly unsuited to agricultural settlement; locate areas with apparent suitability, undoubtedly some of which will need further study; and, finally, delineate areas clearly suitable for development where settlement should be encouraged immediately. This survey is not expected to be in sufficient detail for use in detailed land classification.

The objective of this survey would be to locate sufficient unused or under-used land of acceptable quality to settle 7-10 million people in the next 10 years. Such land should have the following characteristics: Sufficient natural fertility to meet needs for at least the first 3-5 years; be free of major natural obstacles which would necessitate immediate large investment in drainage, irrigation, terracing, etc; be reasonably accessible to transportation and marketing facilities or in areas free of major transportation obstacles; and have reasonable control or potential for control of major health hazards without vast expenditures of funds.

To carry out this undertaking, USAID is recommending that the USDA furnish one soil scientist and rural development specialist or land economist (who is competent in rural development planning) for one year as resident personnel and four short-term consultants for about three months. Personnel would be based in Goiás with considerable travel involved. Resident personnel would revert to resettlement activity after the year on this activity.

Resettlement

USAID feels that this activity will require a total of six resident contract personnel termed resettlement specialists. Two resettlement specialists are expected to revert to this activity from the exploratory survey activity in FY 1965 (soils and rural development specialist or land economist). These two specialists are to be stationed in Goiás, undertake considerable travel, and work with the Ministry of Agriculture and other agencies involved. The other four settlement specialists are

to be stationed in Recife, undertake considerable travel and work with the Ministry of Agriculture and other agencies, especially SUDENE.

This activity is aimed at resettling 30,000 families from the northeast in FY 1965 and establish a pattern and system for resettlement, including procedures, resettlement centers, etc.

The Bohan Report on development needs in the northeast states that a minimum of 100,000 families each year in the northeast alone should not remain in agriculture there but should migrate to areas with greater agricultural potential. This is in addition to the present rate of movement from the farms to cities and to other areas outside the northeast.

Both SUDENE and several state governments have projects developed for resettling large numbers of these rural families. SUDENE's plan is based on relocation of 50,000 families at the rate of 5,000 families per year to lands in the state of Maranhão.

The State Government of Maranhão has started a resettlement project designed for 1,000 families in two years. They have already moved some families to this project without assistance from the federal government or SUDENE. This activity is designed to establish a pattern which is within the economic limits of Brazil. USAID considers it necessary to develop reception centers and administrative structures within state governments and federal agencies to provide (1) basic development guidelines, and (2) to issue land titles.

The extent to which the private sector may participate is not yet well defined. However, out of the 80 locations identified where migration has taken place at least 50 of them are due to private initiative.

USAID recommends that assistance be continued to colonization projects during FY 1964 where presently committed.

Maranhão has established a pilot settlement with its own funds but the soil resources have not been surveyed. If the soil proves satisfactory, USAID plans to assist the state in development of the project by means of a local currency loan and by providing some technical assistance during FY 1964. Further assistance is planned by USAID for FY 1965 provided soil resources prove adequate. USAID feels that land settlement projects would need to provide: Loan funds or Food for Peace commodities, to be used in a rotating "fund" which would have a system aimed at maintaining real value; plans for proper land use for increased future land productivity; plans for diversification and especially for a balanced diet for the settlers; and practical plans for developing an adequate self-supporting system of technical assistance, distribution of farm supplies and agricultural marketing as needed.

Land Transfer

This activity will require one resident agricultural economist in FY 1964 to increase to two in FY 1965 according to USAID proposals. They would be stationed in Rio with considerable travel involved. Contract specialists would work with the Federal Ministry of Agriculture to develop a system of land transfer.

The essential element in the proposed land transfer activity of providing opportunities for farm families to buy or rent family size farms under equitable arrangements is the availability of land of adequate quality. To the extent there are unused government lands of acceptable quality these may be used first. When these are used up, it will be necessary to bring unused and under-used privately held lands into use.

Several methods may be employed according to USAID to bring unused land into proper use. For example, legislation might be passed to provide incentives to land owners to intensify land use where appropriate or to sell to those who will do so.

One possibility is to provide for a tax schedule of land taxes based on potential rather than on the present use of land; that is, on its best economic uses under economic conditions in the area. Resource surveys and agricultural research should provide a basis for this. To provide incentive to family size farms each land unit might receive a "homestead tax exemption" equal to a percentage of the taxes on a minimum adequate unit in the area. Each unit regardless of size or numbers of workers would receive only one such exemption. Such a tax would provide incentive for (1) sale of land to smaller holders who want to put it into proper use or (2) initiation of a proper use by present owners.

Choice of the first alternative will make unused or under-used land available for purchase by the landless; choice of the second will create farm jobs and rental possibilities.

Funds collected from the land taxes should provide needed financing for schools and other essential services in the community. Tax schedules could be adjusted each year to keep pace with the inflation.

Special assistance will be needed by small farmers or farm workers in such matters as arranging purchases, clearing titles, and making loan contracts. It will also be necessary to work out an adequate long term credit arrangement between buyers and sellers. Arrangements might be made for buyers to pay for land with a given quantity of a specific type of produce much like crop-share rent to be delivered to the local cooperative at harvest time each year for a 10 to 15 year period.

Conversions of land prices and debt obligations into commodity payments to be made like crop-share rent each year will remove major objections

against deferred payment for lands. The widely discussed alternative of payment with ten year government cruzeiro bonds at the present rate of inflation is tantamount to expropriation without compensation.

This activity as proposed by USAID will include technical assistance and very limited financial help in: Development of an efficient system which provides incentives to intensify land use with particular emphasis on legal and equitable methods for encouraging holders of large unused or underused tracts to lease on a long term equitable basis or sell in family size farm units; and improvement in the system for land description, title clearance, transfer and registration.

DEVELOPMENT OF COOPERATIVES

Agriculture Cooperatives in Brazil differ widely as to the services they provide farmer members. Their operating performance also shows a wide range in effectiveness. In general, there is much discussion by government officials and agricultural leaders as to the role of co-operatives in the agricultural development of the country.

Status of Cooperatives

Some indication of the status of cooperative development is shown in 1961 data reported by the Department of Cooperative Assistance and Rural Organization of the Ministry of Agriculture. For selected items these data are as follows:

<u>Item</u>	<u>Number or amount</u>
Cooperative (number)	1,830
Members (number)	406,645
Capital realized (millions of CR\$)	4,339
Volume (millions of CR\$)	46,738
Reserve (millions of CR\$)	961

Comparing agricultural cooperatives with consumer cooperatives shows: (1) about three-fourths as many agricultural cooperatives as consumer cooperatives; (2) agricultural cooperatives have three times as much capital; and (3) they do twice the business.

Agricultural cooperatives are concentrated in the southern part of Brazil, as seen by the following tabulation:

				<u>Volume (CR\$)</u>	
<u>Area 1/</u>	<u>: Number of</u>	<u>: Capital</u>	<u>:</u>	<u>Sales</u>	<u>: Reserve</u>
	<u>: Coops</u>	<u>: Members</u>	<u>: realized</u>		<u>: Funds</u>
Northwestern	99	9,320	23,813	16,908	99
Northeastern	490	164,622	425,284	4,712,978	360,901
Southern	<u>1241</u>	<u>232,793</u>	<u>3,890,180</u>	<u>42,008,415</u>	<u>599,867</u>
TOTAL	<u>1830</u>	<u>406,645</u>	<u>4,339,278</u>	<u>46,738,310</u>	<u>960,867</u>

1/ The States of Amazonas, Para, Acre, Mato Grosso and Goias and the Territories of Rondonia, Roraima, Amapa, and the Federal District make up the Northwestern area; the States of Maranhao, Piaui, Ceara, Rio Grande do Norte, Paraiba, Pernambuco, Alagoas, Bahia, and Sergipe make up the Northeastern area; and the States of Minas Gerais, Espirito Santo, Rio de Janeiro, Guanabara, Sao Paulo, Parana, Santa Catarina, Rio Grande do Sul and Rio de Janeiro make up the Southern area.

Further examination of available data shows that Sao Paulo accounted for approximately one half of the total volume of business; Rio Grande do Sul, one-fourth; Minas Gerais and Pernambuco, one-sixteenth each; and the remaining one-eighth was accounted for by the remaining 14 states reporting.

Among the agricultural cooperatives, there are a limited number of centrals or federations (about 10) that service local associations by providing both market outlets and supporting services in addition to farm supplies and basic consumer goods. Their business volume -- and not that of their member affiliates -- was reported in the previous tabulation, thus giving a net figure for this item.

In addition, there were 511 credit cooperatives reported as of 1961. They reported 500,000 members, deposits of CR\$ 14 billion, and loans of CR\$ 10 billion. It is not known what proportion of these cooperatives are primarily agricultural, but cooperative officials report that most of these associations are consumer oriented. A very large proportion (70 percent) of loans made by these associations were made in the southern part of the country, and the State of Sao Paulo accounted nearly half of this business.

Cooperatives in most states have established state leagues to look after their general interests. In many respects these leagues function as trade associations.

State leagues, in turn, established in 1929 Uniao Nacional das Associacoes de Cooperativas (National Union of Cooperative Associations (UNASCO)). The basic objective of this organization is to "congregate the Brazilian Cooperatives in order to disseminate cooperative principles, to defend cooperative interests, to represent them in their relationships with third parties - primarily with other associations and public authorities as well as to establish a permanent link among cooperatives and members in the country and abroad."

In actual practice, UNASCO operates in much the same way as the U. S. National Council of Farmer Cooperatives except that it works with all types of cooperatives. It serves as the spokesmen for cooperatives on a National and State level and on a wide range of operating and legal problems.

UNASCO's board of directors is elected by representatives of each of the member unions. This assures that the association is responsive to the will of its members. It thus serves as a private organization of cooperatives. Moreover, it has a representative on the National Council of Agriculture, an advisory group for the Federal Ministry of Agriculture. This assures that cooperative interests are represented on the various commissions and working groups that are established.

UNASCO also has a number of technical directors who are selected by the directors and are cooperative leaders in important commodity groups -- wine, poultry, cocoa, sugar, swine, livestock, milk, fish, credit, and miscellaneous groups.

The Union has a staff of five people in its Rio de Janeiro office. Among publications on various subjects of interest to cooperatives, it publishes UNASCO, its official house organ, 6 times a year.

Another organization of Brazilian cooperatives operating on a national scale is the Centro Nacional de Estudos Cooperativos (National Center for Cooperative Studies). Centro was established in 1949. As of 1963, membership consisted of 400 cooperatives, and these cooperatives, in turn represented 125,000 individual members. Centro is member of the International Cooperative Alliance.

Centro gives as its basic objectives the following: to bring cooperative students together to promote the interchange of cooperative ideas; to enlighten the public on the general character of cooperatives; to contribute to better public knowledge of cooperatives and collaborate with state authorities; and to promote the organization of cooperatives through advisory assistance, lectures, and the publication of technical works.

Booklets have been published on several subjects, and since 1952, the Center has published the magazine Arco-Iris (Rainbow). It is issued every two months and provides information on a wide range of cooperative activity.

State Cooperative Departments and Cooperative Division in Ministry of Agriculture

In most states, work with cooperatives is centered in the office of the State Secretary of Agriculture, but in some it is located in other state secretaries. The support for cooperatives in the individual states varies widely depending upon both financial resources and the interest and capabilities of the persons responsible for work with these associations. The contributions they make to cooperative development and operation is reflected accordingly.

Work with cooperatives on the state level, in general, is divided into three areas of work. These include: (1) propaganda (information); (2) technical control; and (3) inspection.

Generally, work included under propaganda includes emphasis on helping with organization of cooperatives and providing information for members and officials. Technical control usually relates to problems of registration. Inspection as a rule covers auditing assistance, examination to determine compliance with Federal laws and regulations, and assembling certain statistics on operations.

The Cooperative Department in the Ministry of Agriculture is divided into three operating divisions: (1) Regulation and Inspection; (2) Information and Promotion; and (3) Fiscalization (examination to assure operations in accordance with legal standards). In organizational structure and operations it thus quite closely resembles the various cooperative divisions in state Departments. In actual practice its operations are carried out by means of agreements with state Secretaries of Agriculture that provide for budgetary assistance to support cooperative programs in the various states. However, a shortage of funds has prevented the Department from fulfilling these obligations. Such funds as are made available usually are allocated late in the year and thus do not lend themselves to building effective state programs. Many state Departments of Agriculture have similar problems in supporting their cooperative work.

The Department reports that plans are underway to add and train 130 cooperative technicians in addition to the 100 now employed. These technicians would be employed to work primarily on matters of organization and auditing. The Department also has expressed the need for consolidation and modernization of cooperative laws. In addition it has expressed a willingness to cooperate in the various aspects of the U. S. AID program that is projected for cooperatives.

To help finance cooperatives, the federal government has established a bank, Banco Nacional de Credito Cooperativo. This bank was set up with a capital fund of CR\$ 500,000,000 - CR\$ 300,000,000 to be subscribed by the government and the remainder by participating cooperatives.

While cooperatives have not yet subscribed any appreciable amount of capital, bank officials report that funds available for loans are approximately CR\$ 1.5 billion and that loans to some 365 cooperatives in 1963 will total about CR\$ 3.5 billion. The increase in loan funds is the result of deposits of Federal funds with the banks, which, in turn, it is permitted to use these deposits for loan purposes.

The bank reports 250 employees, 7 active branches (located in State Capitals) and 3 other branches in the process of establishment. It operates through 4 Departments: (1) administration; (2 and 3) operating departments (serving 2 zones in the country) responsible for receiving loan applications, authorizing loans, and following through on servicing these loans; and (4) a technical department that gives assistance to cooperatives, issues publications, and conducts schools - both for bank personnel and cooperative officials.

USAID Plans and Activities

It is the established policy of AID to work with and encourage cooperative development in the countries in which it has established programs. USAID in Brazil has proposed a broad cooperative project that has as

its basic objectives to "evaluate the status of farmer cooperatives in Brazil, their role in the agricultural economy, the conditions under which they operate, and factors bearing on general effectiveness of cooperative operations (credit, production, problems, management, marketing, etc.)".

The project also contemplates advice to the Ministry of Agriculture, Department of Cooperative Assistance and Rural Organization and the various State Secretaries of Agriculture on organizational structure and institutional development. To achieve an effective program and to help build stronger cooperatives emphasis will be given to development and analysis of basic statistics. This project also will emphasize the need to develop techniques for effective research and advisory assistance on practical operating problems.

To achieve these objectives, USAID proposed a resident specialist in cooperative education who would give special consideration to member relations, director and manager responsibilities, information, and organization probably to be stationed in Sao Paulo, Rio, or Brasilia.

In addition, USAID proposed five resident cooperative specialists in the following fields: (1) assembling, storage, and processing of farm products; (2) grain marketing; (3) livestock marketing; (4) marketing of dairy products; and (5) production supply services. Possible states in which these specialists might be located are: Sao Paulo, Parana, Santa Catarina, Goias, and Mato Grosso. In addition, a short-term consultant has been requested in FY1964 to advise on the overall cooperative program.

USAID also indicated the need for a resident cooperative specialist in Rio to advise the Ministry and effect overall coordination. Further, USAID expressed the view that this specialist might be in addition to the six residents requested or possibly replace the specialist planned for Sao Paulo since this might be the best place for the education specialist in view of plans to establish training centers in Sao Paulo. This training specialist could also serve as cooperative specialist for Sao Paulo.

It is proposed to achieve this objective through a concentrated program with cooperative centrals, federations, unions, and other interested groups. Special consideration will be given to problems of management, financing, and member relations.

General Observations

The following observations relate to the status of cooperatives and other agencies working with cooperatives in Brazil.

A. There is broad general interest on the part of government officials in agricultural cooperatives.

B. Cooperative can be an important vehicle for educating farmers, agricultural leaders, and government officials in principles of self-help and self-reliance. To this end they can serve as an example of how farmers, with proper assistance and guidance, can use cooperatives to build a broader and strong base for free rural agricultural enterprises in Brazil and at the same time serve as bulwarks for democracy.

C. Cooperatives vary widely as to services provided, operating performance, and stages of development.

D. The present status of cooperatives, to a very substantial degree, reflects the educational situation in the country. It has been mentioned that on the local level, with notable exceptions among certain ethnic groups, farmer illiteracy is very high - estimated to range from 50 to 85 percent. On the school level (high school and university) there is a very minimum of emphasis on agricultural economics and related subjects of interest to students and workers in agricultural cooperation. No courses directed toward the economics of agricultural cooperatives are known to be given on a university level.

The importance of education is well made by Dr. Freitas Vorges, Executive Secretary of the Federation of Coffee Cooperative of the State of Sao Paulo. In a report on his experience in a training program in the United States he said:

"... the farmers, who use cooperatives to seek better and immediate results of marketing, must be educated in the sense of ownership of the cooperative and must learn that the development of their organizations comes prior to taking maximum earnings of their immediate crops. This problem calls for an extensive educational program and it was in this area of studies that I observed examples of the American Cooperatives work which will be most useful to me in Brazil."

Dr. Borges comments further on cooperative problems in Brazil:

"Unfortunately the farmer's associations that we have in Brazil, with the exception of some local Rural associations, are directed by people too much involved with our industrialist-politicians and are completely divorced from the cooperative movement."

E. The absence of an effective educational program among many cooperatives is reflected in the following conditions that, with notable exception among a number of the central cooperatives, characterize Brazilian agricultural cooperation:

1. A lack of member understanding as to their responsibilities and the possibilities and limitations of cooperative business. As a consequence, active farmer participation is at a minimum and they generally fail to achieve effective control of their own business organizations.

2. Failure to build a strong financial structure that would involve farmers to a substantial degree.

3. Failure to develop sound operating practices relative to duties and responsibilities of directors and management officials, operating efficiency, and financial stability.

4. Lack of effective coordination among the various State and central government agencies, agriculture institutes, and cooperative groups in the development and execution of programs designed to build strong cooperatives.

F. Specifically, an appraisal of work with cooperatives on both state and national levels, indicates a definite absence of realistic goals and plans. Emphasis has largely been on control aspects - particularly registration and auditing -- although from time to time some encouragement has been given to organization efforts. No adequate body of cooperative statistics is available to serve as a basis for measuring cooperative progress and performance. On the central government level and among all states with the exception of Sao Paulo and Rio Grande do Sul, no problem oriented studies are being conducted and no sustained and basic program of education and technical assistance geared to building stronger cooperatives has been developed.

AGRICULTURAL CREDIT

To aid in the agricultural development of Brazil many basic improvements are needed. This includes marketing, transportation, land improvement through conservation practices, use of fertilizer, production practices, disease control for plants and animals, forage crops, housing and many others. To accomplish these it will be necessary to have a sound politically free system of Agricultural credit that can meet the needs of rural people, including cooperatives.

The Credit Situation

From all levels of people contacted there was general agreement that lack of available credit is paralyzing the efforts of farmers to improve their farms; purchase livestock, fertilizer and machinery; adopt recommended production practices; and to improve their living conditions.

It is estimated that 65 percent of the total population lives in rural areas. However, they receive only 30 percent of the national income and 12 percent of the total credit extended. Due to inflation, loan capital has largely been withdrawn from rural communities and invested in real estate or other goods that tend to better maintain their value during an inflationary period.

The credit that does reach the farmers is on a short term basis and does not fully meet needs. The principal source of agricultural credit is from four National Banks, eight state Banks and a few private institutions. The Bank of Brazil, with its 500 branches, extends 90 percent of all credit provided by all banking and private institutions. The following table illustrates the numbers and percentages of all loans made to agriculture by the Bank of Brazil over a 4 year period:

	<u>1958</u>	<u>1959</u>	<u>1960</u>	<u>1961</u>
Agriculture	<u>53,774</u>	<u>70,999</u>	<u>103,544</u>	<u>112,632</u>
Crops	41,168	55,738	79,239	86,632
Livestock	12,606	15,261	24,305	25,723
Other	<u>365,385</u>	<u>433,226</u>	<u>672,560</u>	<u>784,455</u>
Total all loans	<u>419,159</u>	<u>504,225</u>	<u>776,104</u>	<u>897,087</u>
Percent Agricultural loans of total loans	12%	12%	13%	13%

There are 5,600 banks in Brazil. These include the Central and branch bank system of the four national banks, eight state

banks, and a few private banks. It might appear that this figure represents a large number of banks. However, 4,406 of these banks are located in 5 states whereas 10 states have only 132. This indicates that they are too poorly distributed to serve credit needs of the farm people.

Recognizing the vital part that an adequate agricultural credit system could play in increasing the output of agricultural products, the government of Brazil created the Grupo de Coordenação de Crédito Rural (GECRE) in 1961. GECRE is composed of the highest officials of the major Brazilian Agencies concerned with Agricultural credit who function as a Board of Directors. Included are representatives from the Superintendency of Money and Credit; the Bank of Brazil; the Bank of the Northeast; the Bank of Credit for the Amazonas; the National Credit Bank for Cooperatives, the Ministry of Agriculture and a representative of the "Confederação Rural do Brasil." The Executive Director is appointed by the President of the Republic. GECRE's functions include: coordination of the three year Rural Credit Plan, establish method of criteria and priorities for providing funds for Agricultural loans; activation of a national agricultural system; promotion of the expansion of the network of agencies operating in rural credit including cooperatives, and in the training of Agricultural personnel.

The government of Brazil is currently considering legislation that would further strengthen the effectiveness and broaden the operations of GECRE. So far, it is questionable whether or not this Agency will be properly funded to carry out the directives and policies already given them to administer.

To further indicate the need for a sound agricultural lending program, the Brazilian government, through GECRE, requested that USAID provide a team of experts in this field from the United States to make a detailed study of this problem and to make recommendations concerning the establishment and implementation of an overall credit program in Brazil. This study is set forth in the Agricultural Credit Report for Brazil dated April 22, 1963.

GECRE is interested in the full adoption of the recommendations made in this report. However, they believe that it will be one or two years before the government will move in that direction. Meanwhile, GECRE feels that if their group is given sufficient money they can control the policies of banks pertaining to Agricultural loans and that the farmers will profit thereby.

They also believe that if the government would raise legal ceiling of interest rate from 12 percent to prevailing commercial rates (5 percent per month) then the government would have money to loan farmers and that the lenders would not have to assume all of the inflationary cost in financing farmers on a short and medium term credit basis.

From information available, discussion with team members and limited personal contacts, it appears that the credit situation is somewhat similar in all areas. All suffer from an acute shortage of money resources and trained personnel in the field of credit and farm management.

There is one bright spot in the field of rural credit and that is the work done in this connection by ABCAR (Brazilian Association of Rural Credit and Assistance). This organization has the most experienced personnel in the field of supervised credit. They are making a contribution to sound financing through the management and planning assistance they are providing borrowers with which they work.

This type of assistance is increasing in a few areas. However, in most states there is an opinion that ABCAR representatives could perform a much more worthwhile service by working across the board with all farmers in educational work and not become too involved with the few that receive rural credit. The progress made by borrowers that had the benefit of technical guidance by representatives of ABCAR demonstrates the value to the overall agricultural economy of a greatly expanded sound credit system.

The current situation with respect to rural credit may be summarized as follows:

A. Uncontrolled inflation is preventing the flow of money in any appreciable amount to agricultural channels;

B. The Bank of Brazil, which handles 95 percent of rural credit, tends to leave out the small and medium size farmer;

C. There is an acute lack of trained personnel in the field of agricultural credit and farm management;

D. A substantial percentage of farms or ranches are owned by absentee owners that apparently are not interested in improving their farms nor the living standards of their tenants or employees;

E. Institutions extending rural credit are not acquainted with the needs of agriculture;

F. Loans that are made are not related to the appropriate time for repayment;

G. With the exception of very small loans, security requirements are too high. This eliminates again the small and medium size farmers from the present credit structure;

H. There is an acute political and social need to help farmers to acquire owner-operator status;

I. The credit that does reach the farm is short term in nature and is not conducive to stimulating needed operating capital investment and farm and home improvements.

J. There is an area of thinking that sufficient credit in the field of agriculture will not only increase food, feed and fiber production but will also act as a deterrent to inflation.

Brazilian Attitude

There is widespread agreement among people contacted that availability of money resources is one of the determining factors in the development of a sound and progressive agricultural economy. Brazilians are anxious to receive technical help in this field and have reacted very favorably to the Agricultural Credit Report dated April 22, 1963. They apparently are anxious, however, to get started before the full report can be implemented.

GECRE is composed of some very dedicated personnel who are definitely concerned about the welfare of rural people as pertains to their credit needs. Although progress has been slow, their optimism and morale appear to be excellent. Summarizing briefly, the Brazilian people recognize that they need help and have indicated their desire for needed training in further formulating and implementing a sound agriculture credit program that will reach out and serve the basic needs of the agricultural economy.

USAID Plans and Activities

It is planned to secure the services of three resident technicians under contract to train personnel and develop a new credit program close to the one contained in the Agricultural Credit Report. Such personnel would be stationed in Rio to work with and through the Ministry of Agriculture with GECRE, with considerable travel involved. Other plans include sending a specialist to the United States for further training and provision of USAID loan funds to expand the credit program as now organized with emphasis on channeling loan funds through one policy making body, presumably GECRE. The second step in ARD proposals call for the adoption and implementation of the recommendations in the Agricultural Credit Report as soon as possible. Work in this direction is to be simultaneous and worked in with the expansion of the present system.

IMPROVED FOOD DISTRIBUTION 1/

For all practical purposes, adequate information on the marketing of livestock and the processing and marketing of livestock products in Brazil is nonexistent. Information in this area is essential to the development of the country's livestock and meat industry. Recognizing this inadequacy, the USAID program for FY 1964 under the proposed marketing goal calls for improving food distribution and evaluating "the present status of Brazilian agricultural marketing systems and organizations, with special emphasis on the needs of marketing livestock and livestock products."

The statement offers the following additional information concerning other types of activities planned: "Technical assistance will be offered in the specific problem areas of marketing poultry, dairy and livestock products, with an initial concentration of effort toward identifying and correcting product marketing losses to a level of 10 percent or less. Early attention will be also given to reducing marketing costs, including unduly high marketing margins, thereby increasing returns to producers and in turn stimulate increased production, and lower costs to consumers thereby increasing consumption and the adequacy of dietary level."

A ProAg, entitled "Livestock Credit and Marketing," approved by the Minister of Agriculture and the Director of USAID/Brazil May 30, 1963, provides the basis for the previously cited USAID activities statement. A PIO/T to implement this ProAg was issued on May 31, 1963.

The PIO/T against this ProAg provides for four resident technicians for a 2-year period, including a specialist in livestock and meat marketing (excluding poultry), a specialist in the marketing of poultry products, a specialist in marketing dairy products, and a general marketing specialist (well informed on marketing livestock and livestock products through cooperatives). Possibly, such personnel would be stationed in Rio, travel considerably, and advise and assist the Federal Ministry of Agriculture on policy and research. Subsequently, the proposed FY 1964 program added four short-term consultants of similar specialities to be stationed in Rio to assist resident personnel. USDA is requested to consider providing these specialists who are to work against the market infrastructure activity.

Discussions with USAID officials and some state government officials, and a review of the scope of technical assistance provided in the PIO/T indicate that ultimate goals are substantially beyond those indicated in the USAID activities statement for fiscal year 1964. For example, the scope of technical services section of the PIO/T includes the following: ". . . contract technicians will:

1/ Storage and transportation is directly related to this section and has been analyzed as background information (Encl. 13).

- A. "Evaluate the present status of the agricultural marketing systems and organizations in Brazil for the marketing of livestock products, identifying causes of unduly high marketing costs and losses in terms of produce; deficiencies that can be remedied by adjustments in marketing by producers or by improvements in the marketing infrastructure;
- B. "Consult with Brazilian officials with regard to existing plans in the field of marketing livestock and livestock products;
- C. "Develop a plan for improving the marketing infrastructure, indicating existing facilities that should be expanded or new installations required, including location, capacity, technical characteristics, operational requirements, and needs for training operating personnel;
- D. "Collaborate with USAID and GOB engineers in developing a construction program to implement the plan outlined in "C", above, which includes cost estimates of construction and technical equipment; and
- E. "Assist Brazilian organizations, as well as USAID/Brazil, in processing applications for loans based on "C", above."

The concentration of livestock slaughter plants in the 300-mile coastal belt, particularly in the state of Sao Paulo, is causing concern among some livestock producers and state government officials in outlying areas. This concern is particularly evident in Minas Gerais. That state, according to state officials, is shipping about 800,000 cattle to Sao Paulo each year for further feeding and slaughter.

To stem this outflow, a state-controlled packing company has been formed with provisions for the state to control at least 51 percent of the stock. At present the state owns 94 percent of the stock and private individuals own only 6 percent. At Belo Horizonte the firm has completed one plant except for additional freezer facilities. The firm also owns and operates approximately 25 local retail outlets.

Company officials indicated that livestock procurement costs (paying prices for cattle) were about 20 cruzeiros per kilogram higher than for local privately owned firms but that prices for meats sold through the firm's retail stores were 30 cruzeiros per kilogram lower than for their competitors. Reliable information is not available to show whether this situation exists because of greater efficiency, a willingness to accept a lower return on investment, or government subsidies. The slaughter plant at Belo Horizonte operated at rates substantially below capacity this year, but state officials plan to construct four other plants in other parts of Minas Gerais. State officials are looking to assistance from USAID in developing and financing their plan. Such assistance could be provided under the ProAg and PIO/T previously referred to in this section.

The need for plant construction should be considered in view of the current situation in Brazil. Slaughter establishments are numerous but vary considerably in size and ability to perform traditional packinghouse operations, particularly with respect to storing frozen meats and to the complete use of byproducts. Twenty-seven plants are licensed by the Federal Government to export meat products, all but five of which are in Rio Grande do Sul and Sao Paulo.

Data showing the slaughtering and processing capacity are not available, but a private firm in Sao Paulo estimates that in 1962 the 10 major firms in that state operated at only 46 percent of capacity. (This capacity data reportedly took into account the principal limiting factor in each plant and the seasonality of livestock supplies.) Recent discussions with packers in Goias, Minas Gerais, Rio Grande do Sul, and Mato Grosso indicated that 1963 operations have not exceeded 40 percent. (Comparable data for the United States shows packers operating at 65 to 70 percent of rated capacity for most years.)

Another matter which is causing considerable activity in the meat industry is the Federal Government's financial assistance earlier this year to Brazilian-owned firms to encourage them to freeze beef during the "wet season" for sale during the winter months. Nearly all of the plants studied had some construction underway to enlarge their cold storage facilities. Packers indicated that this was a profitable operation, since cattle prices are normally 20-30 percent lower than the average during the period of seasonally large marketings while meat prices are 20-30 percent higher during the period of low marketings. On the other hand, monthly storage costs amount to only about 2-3 percent of the value of the beef.

Packers view cold storage operations as one means of reducing the seasonality of meat supplies available to consumers and as a means of improving and standardizing the quality of beef sold at retail. It appears that this practice is being adopted as rapidly as financing will permit. Several packers pointed out that it would have been adopted sooner but Brazil's chronic inflation has prevented the accumulation of necessary capital and that under existing circumstances their only source of capital is the Federal Government (Bank of Brazil).

ECONOMIC SERVICES

Economic services proposed involve a consideration of estimates and forecasts, market news, economic analysis, and a northeast marketing study. Directly related to market news is the situation which prevails in grades and standards (Incl. 14).

Present Situation

Work in the area of agricultural economics is in an early stage of development except for that in the state Department of Agriculture in São Paulo.

With the reorganization of the Ministry of Agriculture in 1962, a Department of Economics was established. This department is in the process of being developed and an effort is being made to get a program underway. About five professional staff members are presently employed. Three divisions or units have been established as follows: Crop Forecasting; Production Statistics; and Economic Analysis. There is a strong interest by this Department in assistance from the USDA in furthering its development. The Director General of the Department also expressed an interest in cooperation with the states in the development of the work. When possible assistance from the USDA was discussed, he had two staff members from the state Department of Agriculture at São Paulo at the conference and reflected his desire to cooperate with that staff.

A Pro Ag has been signed between the Ministry of Agriculture and USAID to provide for assistance in (1) production estimates and forecasting (2) market news and information and (3) economic analysis.

The Director General reported that some work has been done on transportation of agricultural commodities and that a system is being developed in the Department of Economics for collecting data throughout the country. Initially it is planned to locate 10 agents in the IBGE regions of the country. The Department plans to have eventually 245 agents located throughout the country. These agents will be responsible for collecting all economic data pertaining to agriculture including prices, marketings, livestock surveys, acreages planted, and related information. Field workers would collect information and forward it to the regional offices where it would be summarized and forwarded to the Department.

Much of the agricultural economics research in Brazil is concentrated in the Rural Economics Division of the Secretariat of Agriculture in São Paulo. This organization has seven units engaged in the following areas: (1) Agricultural policy, (2) analysis of markets and prices, (3) marketing, (4) organization of farm enterprises, (5) economic surveys, (6) crop forecasting, and (7) analysis of farm costs and returns. A total of 27 professional people is employed in that state. Plans are underway to employ 10 field people to collect data for crop and livestock estimates and to do the field work on special economic studies. This number will be expanded to 30 in the future.

The Rural Economics Division in São Paulo has employed a scientific sampling method for estimating crop production and livestock numbers. The Director of this organization reports that they have a good system and that USDA assistance is not needed in the sampling and collection of data. He reported that the standard error in the crop and livestock estimates is on the order of 5 percent.

Research has been conducted on trends in agriculture and rates of growth in various agricultural enterprises in São Paulo. Many research publications have been issued by São Paulo Division of Agricultural Economics (See Estrutura, Atribuições e Trabalhos da Divisão de Economia Rural da Secretaria da Agricultura do Estado de São Paulo, Nov. 1962. This publication - 53 pages - lists the agricultural economics reports issued by that Division).

Dr. Rubens Dias, Division Director, believes that his department needs help in methods of analysis. He is of the opinion that São Paulo could gain most from a topflight agricultural economist with a Ph. D. who would work with his total staff on research methodology and general orientation of the program. He has four or five staff members in the USA and Europe taking graduate work but financial resources limit opportunities to send staff overseas for training.

Dr. Dias would like to strengthen the farm management and production economics work in São Paulo. High on his list of priorities in this area is the development of a farm records system which would supply needed input-output data. The Ohio State University will contract with AID to assist the University at Piracicaba, São Paulo. Dr. John Sitterly, Prof. of Farm Management, Ohio State University will head this project and probably can provide assistance needed by São Paulo. This area could set the stage for some excellent cooperative work between the University and the state Department of Agriculture. Assistance could also be provided by an expert from the USDA who is familiar with farm records keeping systems.

With the development of the Purdue contract at Viçosa a great deal of interest was developed in economics work in Minas Gerais. While much of the assistance from the USA in that state has been in the development of the teaching curriculum of the university, emphasis is currently being placed on the development of a research program in agricultural economics. A grant is being received by the state Secretary of Agriculture from the Ford Foundation (estimated at \$500,000) which will be used to develop an improved system of collecting economic data, including crop and livestock estimates, and in the analysis of such data. At the same time a research program and necessary budgets are being developed for the university to provide for research with state funds. The program has been approved by the governor and will now go to the state legislative.

The state of Rio Grande do Sul also has plans to develop work in the economics of agriculture at the university level. Responsibility in this area currently rests in the state Department of Economics rather than the state Department of Agriculture. Little economics work appears to have been done except in the area of cooperatives. AID has a contract with the

University of Wisconsin to work with the University of Rio Grande do Sul. This contract provides for advice in planning and conducting economic research as well as for teaching. It is quite probable that opportunities for cooperation between the Ministry of Agriculture and that state will develop in the area of economics.

Much of the limited educational work in economics of agriculture is in the area of farm planning or farm management. This work grew out of the credit work carried on by the ABCAR system. A few states have specialists in this area of work and ACAR-Minas Gerais has developed a farm record system in cooperation with Viçosa. Some economics work is being carried on in cooperative marketing and the need for expansion of the work in this area was expressed especially in Minas Gerais.

Most farmers have little current economic information upon which to base production and marketing decisions. Communications are slow and wide discrepancies exist in prices within relatively short distances. (For example, in northern Paraná during the last harvest season corn was sold for 600 cruzeiros per 60 kilogram bag in one town while 40 kilometers to the west the price was only 300 cruzeiros per bag.) Contributing to this situation are a number of factors which limit a producer's ability to seek higher prices. Most have access to only one or two buyers, and the absence of adequate transportation almost eliminates consideration of an alternative market. Then too, the general state of the agricultural economy and chronic inflation have reduced many farmer's economic status to the point where they are in a very weak bargaining position. Often the terms of payment, particularly the amount of cash offered at the time of sale, are as important to farmers as the total price. These conditions lead to many complaints of middlemen taking advantage of farmers. A number of marketing cooperatives have been formed to help alleviate the situation, but except for a limited number of central associations in São Paulo and Rio Grande do Sul their creation has not materially eliminated the basic weaknesses of the marketing system.

Most of the price information now available to farmers is presently in the form of published annual or monthly summaries, although another possibility is through radio since this communications medium is expanding rapidly. However, since the literacy rate among the rural population is estimated at substantially below 50 percent, the effectiveness of such summaries is very limited. Often these data are out of date by publication time and in many cases their reliability is questionable. Consequently, current information available to producers consists largely of what the local buyer or buyers pay.

The contribution that current reliable price information can make to agricultural development has been recognized by the federal and some of the state governments in recent years. In 1959-60 Pernambuco and Bahia inaugurated a price information service for the major markets in those states. More recently, the state of São Paulo began collecting and disseminating price information for the major fruits produced in the area -- peaches, pineapples, and mangoes. São Paulo's Department of Agriculture plans to include cereals, coffee, cotton, peanuts, and livestock in its program.

in 1964. To overcome communication difficulties, the state plans to install radio equipment with its reporters who will be stationed throughout the state, as well as in northern Paraná, eastern Mato Grosso, southern Minas Gerais, and southern Goiás.

BRAZILIAN ATTITUDE

An urgent need for better economic data and analyses was expressed by many state and federal officials, representatives of private organizations and university staff members. Many officials place very little confidence in the basic economic data now available, except for that collected by the state of São Paulo.

Many Brazilian officials appear to be dedicated to improving the economic data and analyses available for decision making through building an organization which would include a full line of economic services such as those provided by USDA's Economic Research Service, Statistical Reporting Service, and Agricultural Marketing Service. It would appear that the officials of the Department of Economics in the Ministry of Agriculture will, to the extent of funds available (very limited at present), try to improve basic data on crop and livestock estimates, prices, etc. The Director General of that Department was eager to receive USDA assistance as soon as possible. Information on the extent to which the Ministry will support this work and especially the projected expansion is not available.

The attitude toward improving economic work in São Paulo and Minas Gerais appears to be favorable and indications are that resources available will permit continued expansion and improvement of the work. In both states the secretaries of agriculture appear to support the work enthusiastically (as well as financially) and a favorable climate appears to exist for cooperation between the universities and the economic divisions of the state Departments of Agriculture. US university personnel employed on each of these university contracts are competent in economics. Thus, the climate in these states would appear excellent for advancing economics work in Brazil.

Plans of the Department of Economics are very ambitious at this stage of the unit's development. Discussions with staff members indicated a general lack of experience and knowledge in the development of a field organization and the mechanics of its operation.

Further discussion of the Department's plan for market news indicated that federal personnel are willing to start with one field office (which would ultimately become one of the regional offices) and to rely to the extent possible on state employees to gather information from the geographical zones. Earlier discussions with personnel of the São Paulo Department of Agriculture indicated that they would welcome technical assistance from USDA and would cooperate with the Federal Ministry. In view of the interest and apparent willingness of São Paulo and federal personnel to work together on this project and the fact that São Paulo is the most important state in Brazil from the standpoint of agricultural production and processing of agricultural commodities, it seems the most logical state in which to initiate such a program.

A Number of problems will be encountered in providing technical assistance. Included among these are the current lack of standards for agricultural commodities and the scope of technical assistance desired by the Department of Economics from a market reporting specialist. The absence of standards for most agricultural products will initially create some problems in gathering, summarizing, and disseminating price information. This will require reporters to use local trade terminology. Hence, the information provided cannot be as refined or precise as would normally be desired by USDA for a good reporting job. In some respects though, the service will be more useful to farmers if current descriptions are used, particularly in view of the educational level of the farm population and their almost complete unfamiliarity with grade terms. However, efforts should be directed toward refining market reporting as the program progresses, and this likely will create a need for more precise standards and terminology.

Market news assistance in the reporting of commodities may involve an advisor who may not be familiar with some of the products being reported. However, this should not create significant problems for the specialist since his primary job will be to teach and demonstrate the principles and techniques of market reporting, and these are essentially the same for all commodities. The market news specialist may also be requested to provide assistance in other phases of the Department of Economics' work such as estimating livestock numbers and crop forecasting.

USAID PLANS AND ACTIVITIES

USAID is attempting to strengthen the economics work in the Ministry of Agriculture through an agreement which provides for additional funds support to the very limited program financed by the Ministry of Agriculture. USAID desires technical assistance from the USDA to support the work in crop and livestock estimates and forecasts, market news, economic analysis, and a marketing study for the Northeast.

The USAID staff believes that USDA should support the work of the Department of Economics, Ministry of Agriculture, as follows:

- A. Consulting short-term assistance in crop and livestock reporting to work in Rio;
- B. One resident market news reporting specialist to be located in São Paulo; and
- C. Two resident agricultural economists to work in economic analysis and orientation of programs, one to be located in Rio and the other in Rio or São Paulo.

USAID is also desirous of strengthening economics work in the states and is doing this through university contracts in Sao Paulo, Rio Grande do Sul, and Minas. Assistance from the USDA is also desired to help the state Departments of Agriculture strengthen their economics programs. This, they point out, must be done through cooperative projects with the Ministry of Agriculture.

The AID staff in the Northeast has requested a seven man survey team for a six months period to evaluate the situation including the ability of the Northeast to supply products the market requires, to determine what needs to be done to substantially improve marketing procedures, and to recommend how improved procedures are to be attained.

LIVESTOCK PASTURE AND FORAGE, AND FEED 1/

Increased livestock production is a major USAID goal. The goal is made up of two sub-goals; Research; and improved practices. Research is to be carried on by IRI and is excluded here. Improved practices involved two activities: Institutional or ABCAR; and a development program. The development program includes three sub-activities in which USDA assistance has been requested: Pasture and forage; feed; and disease control. In addition to the livestock situation, the pasture and forage and feed sub-activities are treated here and disease control in the next section of this report.

Livestock Situation

A diversified livestock industry exists in Brazil reportedly comprised of approximately 80 million cattle, 53 million hogs and 20 million sheep, 12 million goats, and 204 million chickens. A large portion of livestock production is concentrated in the southern states. According to 1960 estimates, nearly half of the cattle numbers are in Minas Gerais, São Paulo and Mato Grosso; and nearly half of the hogs and poultry are in Minas Gerais, Rio Grande do Sul and Paraíba.

Livestock production is reportedly on the increase in most states. Estimates of livestock numbers in 1961 and 1963 indicate that cattle numbers increased from 76 million in 1961 to 80 million in 1963; swine, 50 million to 53 million; and sheep, 19 million to 20 million.

Beef Cattle - A large proportion of the beef cattle in Brazil contain Zebu breeding being the result of several generations of crossing Zebu bulls (mainly Nelore) on native cows (mixed breeding going back to early imported cattle from Portugal). Many of these cattle are of good Nelore type showing adequate size and development while others are inferior. There has been some use of Devon cattle both as such and in crossing with the native cattle and the high grade Zebus. In the Southern states, especially Rio Grande do Sul, some of the British Breeds such as Hereford, Angus, Shorthorn, Devon and Charolais are of importance along with Santa Gertrudis and the Zebu.

Climatic conditions in Brazil are varied but in general there are two seasons: A 6-7 months wet season; and 5-6 months dry season. During the wet season there is an abundance of forage, some of it being poor quality; while during the dry season there is a shortage of forage. At present, there is little supplementation

1/ ABCAR is directly related to the livestock production goal and the improved practices sub-goal and has been analyzed as background information. (Incl. 15).

of protein, concentrate, or roughage for cattle during the dry season. Losses of weight of mature cows during the dry season are estimated to be in the neighborhood of 100 to 150 kilogrammos. Calves are generally born at the end of the rainy season and gain practically nothing during the dry season unless they are supplemented. During this period of weight loss or no gain, the animals are most susceptible to parasites, diseases, etc. Estimates by several producers and research people indicate that death losses of calves from birth to weaning are around 5-7 percent. During the first dry season after weaning there is an estimated additional death loss of about a five percent.

Calving percentages for the most part are low; estimates by research workers and Ministry of Agriculture personnel as well as use of yearly slaughter information and estimated mature cow numbers indicate that the percentage of calves weaned of the cows bred is about 35 percent. Some experiment station herds as well as some of the better producers herds have weaned 80 percent or more when environmental and disease conditions are improved.

Experiments by the IBEC Research Institute (IRI) in São Paulo involving improved pasture grasses for steer fattening not only increased rate of gain during the wet season but also improved gains remarkably during the dry season. The average age of slaughter steers is reduced from 4-6 years under conventional native pastures to 2-3 years under improved pasture and management schemes. Additional experiments and demonstrations are being planned by IRI in cooperation with USAID and Minister of Agriculture in other locations and states.

Steer fattening for slaughter is practically all in the category of grass feeding, there being virtually no grain fattening of slaughter cattle. The common live weight of slaughter steers is about 425 kilograms (1,000 pounds). The age at which steers reach this weight varies greatly from area to area in the country, but in general is about 4-6 years. Many steers are trailed long distances (500 to 1,200 kilometers or 300 to 700 miles) to grass fattening areas, one such large area being in western São Paulo. Cattle being fed in this area are mainly from the states of São Paulo, Mato Grosso, Goiás, and Minas Gerais.

The 1963 estimate of slaughter cattle was 7,350,000 head for a production of 1,382,000 metric tons of beef and beef products. The ratio of slaughtered animals to total cattle is about 9 percent.

Swine - Swine production is mainly on small farmer where lard types predominate. The native breeds Piau, Nilo Canastra, Caruncho, Pirapitinga are greatest in number and there is some use of Duroc, Wessey, Landrace, Poland China and Berkshire as straight breeds and in cross breeding programs. Serious losses occur due to parasitism, disease, and nutritional deficiencies. The Ministry of Agriculture reports an average litter size of about 3 or 4 weaned for the country as a whole. Universities, experiment stations, Ministry breeding farms, and better producers indicate that litters of 7 or 8 pigs weaned are accomplished under improved conditions.

In general, pigs are weaned at about 7-8 weeks, pastured for about 3 to 4 months and put on full feed of corn or other available grain for about 6 months, reaching market at about one year of age at a weight of about 125 kilograms (275 pounds). Gains are not particularly efficient under ordinary circumstances according to Ministry and University scientists. Rations are generally not balanced nutritionally and vary widely depending on availability of food grains.

Lard still brings a good price relative to the value of pork, thereby not discouraging the production of lard types hogs. Personnel in the Ministry breeding stations and University personnel indicate that they feel selection should be practiced for meat-type hogs since the demand for lard is decreasing somewhat. Very limited comparisons are being made at some locations between native types (lard type), crossbred type (Duroc, Landrace).

The 1963 estimate of swine slaughter was 9 million head for a production of 603,000 metric tons of pork products. The ratio of slaughtered animals to total swine numbers is about 17 percent.

Sheep - Sheep are raised in Brazil mainly for wool production. Most of the mutton is consumed on the farm, hence lamb and mutton production is of little importance in the meat trade.

Over half of the sheep in Brazil are in the state of Rio Grande do Sul. The breeds are mainly Corriedale, Rambouillet, Merino, Columbia, Panamá and crosses. Flocks are generally large, comprised of 10,000 head or more. Lamb crops average about 80% in Rio Grande do Sul.

The 1963 estimate of lamb and mutton slaughter was 1,600,000 head for a production 25,000 metric tons of prepared lamb and lamb products. The ratio of slaughtered animals to total sheep number is about 8 percent.

Goats - Consumption is about the same extent as for sheep. The slaughter estimate for 1963 is 1,600,000. Goats are used for milk and to some extent meat.

Dairy - Dairy production is concentrated mainly in the areas of large population, namely in the states of Minas Gerais, Rio de Janeiro, Guanabara, Sao Paulo, and Rio Grande do Sul. The main source of milk is from Zebus selected for milk production and from Holstein-Zebu crosses. Over half of the dairy production and processing is handled through cooperatives. Dairy herds vary greatly in size. Machine milking is prevalent in the larger herds though there is still considerable hand milking of cows in the smaller herds.

Milk production has been increasing steadily. Milk production in 1963 was estimated at 5.5 billion liters compared to 5.3 billion liters in 1962. The production of dairy products increased by 20 percent in 1962 over 1961.

Poultry - Poultry numbers are increasing rapidly in Brazil. It is estimated that poultry numbers have increased by 85 percent in the past ten years. Generally, flocks are small and kept mainly on farms in a diversified operation. However, large poultry operations are on the increase accounting for much of the increase in poultry numbers. Broiler production in Brazil is still small and much of the poultry consumed is of older ages. Relatively little feeding of balanced poultry rations is accomplished at the present time.

Pasture and Forage Situation

Better varieties and management of pasture and forage can substantially reduce losses and increase livestock production.

Several research institutions are testing a large number of grass and forage crops. As these findings become available they should be applied on operating farms. While more research is needed, some reasonably good varieties are already available for widespread use by farmers. Perhaps the greatest need is to develop legumes, comparable to alfalfa and clovers of the temperate zone, for tropical conditions.

Many livestock producers recognize this need and have a desire to improve pastures. Better planting material as well as the knowledge of how to use it in the wide variety of soil fertility levels are needed. State plans are emphasizing the need for many programs involving introduction and multiplication of improved forage crops on farms. This is recognized as a fundamental prerequisite, on a large scale, of increased production. It can be handled, to an effective degree, through multiplication of planting material in cooperation with farmers for free distribution to surrounding areas. Efforts should be made toward the development of private seed enterprises as rapidly as possible.

Brazilian Plans and Goals

Brazilian producers, in general, are well aware of the need for increased livestock production. At present, livestock production is not keeping up with demands of internal consumption and limited exports. Ministry and state officials are aware of many of the problems involved in increasing livestock production and are making attempts to increase information and its availability to producers. However, some government policies, inflation, other problems, and price controls tend to discourage increases in production.

Limited research is being carried on to arrive at some of the answers to problems that presently depress production. Officials believe there is a need for increased research and demonstrations and see the necessity of increasing extension type activities so that the producers are better trained in techniques and practices which would increase production. Some excellent research personnel are working, at

present, in Brazil but their effectiveness is extremely limited by the relative lack of leadership and continuity, small numbers, and limited funds. In many instances excellent buildings, laboratories, and equipment are available but neither personnel or funds are available for satisfactory operation. Information on improved practices and techniques is extremely limited, therefore, giving extension people little to work with when instructing producers.

Considerable interest has been shown by livestock producers toward good demonstrations. The work by IRI at Matão and Jangada, São Paulo is being well received and studied by producers and Brazilian extension personnel.

An artificial insemination project in Rio Grande do Sul started by USAID has demonstrated the usefulness of such a technique in livestock production. Four cooperatives have been formed and an estimated 30,000 head of cows have been bred artificially by the use of semen imported from the United States. Improved health and management practices are demonstrated and suggested by the organizations. Considerable interest has been shown toward performance and progeny testing of beef bulls in this state, so that superior bulls can be identified. Since environmental conditions are varied and the possibility of genetic-environmental interactions exist, it appears reasonable to conduct such tests under local conditions.

The common belief among producers, university and Ministry personnel, is that doubled livestock production can be accomplished with existing numbers of females, land area, and facilities by controlling diseases, improving nutritional status, and increasing reproduction performance. However, demonstrations of how to accomplish these goals are very few. It is the opinion of many that even though information on improved practices from other countries is helpful, some such information is not completely transferrable and that due to differences in environmental conditions, different results may be obtained if the same experiments and demonstrations were carried on in this country.

The lack of enough technicians trained in agriculture to prepare material and carry it to the producer is one of the major problems. Transportation and communication inadequacies make it difficult to reach the producer with information.

At present, four Ministry of Agriculture livestock research and demonstration farms are in existence under the direction of the Departamento de Produção Animal. Two of these are located in Rio de Janeiro, one in Minas Gerais and one in Rio Grande do Sul. Nine more are planned in Paraná, Espírito Santo, São Paulo, Minas Gerais, Mato Grosso, Goiás, Ceará, and Pará when funds become available. The existing and proposed stations are mainly for research and demonstration. However, their activities are to be studied and coordinated with extension. Six Ministry of Agriculture breeding farms for the production of breeding

stock are located in Minas Gerais, Goiás, Pará, Paraíba, São Paulo and Rio Grande do Sul. Even though demonstrations and research in live-stock management and forage production are not carried on at the breeding farms, improved practices can and are being employed so that these stations could serve as examples of better nutrition, management and breeding practices.

The Departamento de Promoção Agropecuária (DPA) indicates a desire to increase livestock production through increased technical and material assistance to producers. This assistance would be in the form of increased demonstrations at the Ministry level, so that training of Brazilian technicians could be accomplished. In this light, they have requested assistance from the USDA in advising on overall policy and techniques at the Ministry level and advising department heads as well as state Secretaries of Agriculture. The DPA believes that at this level, Department Heads of the Ministry and State Secretaries should be integrated for planning. In addition to the above, they request personnel of a technical nature to work in the field (various states) with the Ministry and state research farms.

There is little evidence, however, at present of any tendency to increase funds and personnel for experiment and demonstrations farms. The stations appear to be under-staffed and under-financed. Some technical personnel work only half time. It is difficult in some instances to tell whether the lack of accomplishment at these stations is all due to under-staffing and under-financing or due, in addition, to the lack of imaginative direction of the research personnel. Some Departments function well and show accomplishment while others do not. Essentially no material or practical farm bulletins based on research and demonstrations have been published. The gap in active cooperation between the Ministry and states is still very wide and considerable effort will be required to narrow it in the immediate future.

State Universities and colleges also appear to be under-staffed and under-financed. However, some good research work of a highly scientific nature is in edivance in animal nutrition and genetics at the Rural University of Minas Gerais. Some management work is in progress but this is more limited than the nutrition and genetic work. The universities are not turning out enough technicians to meet the demands. It also appears that many of the graduates are not technically trained in specific fields. Advanced training at the Master and PhD level is lacking. Specific University contracts with U.S. universities through USAID are aimed at helping this situation. One such contract is in operation now between Purdue University and the Rural University of Minas Gerais at Vicosa. Other such university contracts in São Paulo and Rio Grande do Sul are planned.

USAID Plans and Activities for Pasture and Forage

The AID program would utilize recently available research findings under the IRI contract for the multiplication of the improved forage varieties which have been or are being developed for varying levels of

soil fertility. Their use as standard practice by farmers on a wider scale needs to be estimated.

According to estimates made by USAID, this would involve the establishment, by the end of FY 1964, of about 800 introduction and multiplication plots on farms in selected areas and a similar number of plots on additional farms in FY 1965. These plots would be sources of planting material which would be readily available to farmers. By 1965, 300,000 hectares of improved pasture with a carrying capacity two to eight times that of present would be established.

This pasture and forage development activity proposed to establish in FY 1964, fifteen area centers in several states. Cooperative agreements are to be worked out defining the work areas and the responsibilities of AID, Ministry of Agriculture and the States Secretariats of Agriculture. The state will have the major operational responsibility and will provide personnel and equipment available. The Ministry of Agriculture will provide some funding, and technical personnel. AID will provide supplemental equipment, recommendations and technical assistance through a proposed USDA contract particularly in analysis and personnel training.

The proposed FY 1965 plans are to establish the same number as in FY 1964 making a total of 30 Pasture and Forage area centers for the total activity. Each area will be planned to operate for two years.

Each of the area centers where Ministry, state or other equipment is not available, will be supplied with 2 tractors, tillage tools, grass planters and other needs and implements to be furnished by USAID. USAID through a proposed USDA contract will provide pasture and forage specialists each of whom will render advisory services.

The Ministry of Agriculture or the Secretary of Agriculture in each state will provide each area center with one agronomist, tractor drivers, day laborers and most operational and other expenses.

The area centers will operate within a radius of 15 to 20 kilometers from the selected base. A farm plot of one or two hectares accessible to the base will serve as a primary introduction and seed multiplication area and further multiplication will be in one or two hectare plots on well selected sites.

Research and extension knowledge will be used to the fullest advantage. Technicians connected with the work will be given special training at research centers and research stations will be expected to furnish some of the basic planting materials needed in the various centers.

Although the major objective is to provide a ready source of planting materials, the training and demonstrational values of the activity will be strongly emphasized.

USAID is recommending a contract with USDA to furnish three specialists in pasture and forage production to give technical assistance to this activity. The probable location of each is: in State of Mato Grosso, in State of Goiás and the third man undetermined but probably in Rio de Janeiro. (Incl. 18)

Although this activity is to be carried out through the Department of Agriculture and Livestock Promotion (DPA) in the Ministry of Agriculture, full cooperation by the State Secretaries of Agriculture and State Extension Services must be developed and appropriate agreements signed.

The specific duties of these specialists would be to assist in planning and implementing projects to introduce and multiply improved forages and pasture materials on farms including production of planting material in centralized multiplication plots; arranging with farmers for establishment of introduction plots; related technical determinations (soil fertility, varieties, etc.) and use of machinery in establishing plots.

USAID Plans and Activities for Livestock Production (Livestock and Feed)

USAID has as a major goal the doubling of livestock production by 1972. This is to be accomplished through a program of several sub-goals, activities, and sub-activities indicated above with agricultural specialists from USAID, University contracts, USDA contracts, and non-governmental contracts.

As previously mentioned, USAID has initiated a contract between Purdue University and the Rural University of Minas Gerais. In the field of animal science, this includes an Animal Breeder, Animal Nutritionist, and two Dairy technicians. Animal science research on forage utilization and nutrition is also being planned under contract with the I.R.I. In the area of livestock production, USAID is requesting from the USDA, three resident beef cattle specialists, one dairy production specialist, one general livestock specialist and one livestock training specialist. These resident specialists would have dual responsibilities in demonstration and extension type training programs. (Incl. 18). These men would be located in different areas: Goiás, Mato Grosso and Rio de Janeiro (working where needed). The extension activities would be mainly in training Brazilian technicians along with demonstrations and some specific farm contacts. It is the plan of USAID that most research of both a technical and applied nature will be conducted by contract arrangements, mostly with IRI. Supplementary extension activities, demonstrations, and some applied research in the field would be carried on by USDA.

ANIMAL DISEASE CONTROL

The most important animal diseases in Brazil from the economic standpoint are stated by Dr. Jayme Lins de Almeida, Director General of the Department of Defense and Inspection of Agricultural Products (DDIA), Ministry of Agriculture, to be generally as follows:

Cattle:	Aftosa, rabies, parasitism and nutritional diseases, and brucellosis.
Swine:	Hog cholera, parasitism and nutritional diseases, and brucellosis.
Sheep:	Parasitism (including various helminths, fasciola hepatica, echinococcus granulosus, monezia expansa, and lignognathus pedalis), nutritional diseases, anthrax, and clostridial enterotoxemia.
Goats:	Parasitism and nutritional diseases.
Poultry:	Newcastle disease, leucosis, parasitism and nutritional diseases, and fowl pox.

Accurate incidence figures for such diseases are unavailable. A more accurate and comprehensive system of animal disease reporting is one of the primary programs presently being developed by veterinary authorities of the Ministry of Agriculture.

Leptospirosis of various species is also a problem, but more work is required to determine its extent.

Aftosa

Aftosa is responsible for a greater economic loss than any other animal disease in Brazil.

The consensus derived from Dr. Jayme Lins and from the other veterinarians, livestock officials and producers, and packing plant operators interviewed during this study is that:

- A. Few cattle in the major cattle producing areas reach market age without being clinically affected with aftosa more than once;
- B. Effective prevention of aftosa would allow marketing of cattle on the average at least six months earlier than is presently the case; and
- C. Prevention of aftosa would in itself increase beef production by 20 to 25 percent.

This percentage figure takes into account sterility, abortion, and mastitis resulting from aftosa infection; calves which die when their dams are infected and their udders "dry up," animals which due to heart (and other) lesions never fully recover from effects of the disease; animals which suffer complication of foot lesions and are still limping

and unthrifty a year and more after infection; and the average six months increase in market age of animals due to aftosa infections.

It is estimated that average cattle slaughter age is 3.5 - 4 years in some of the major cattle producing areas of Brazil and 4.5 - 5 years in others. If this slaughter age can be reduced by approximately 6 months by preventing aftosa, grazing time on already over-stocked pastures can be reduced by from 10 to 14 percent.

In August, 1963 the Brazilian Aftosa Commission was formed by Presidential decree. This is a 4-man commission in the Ministry of Agriculture. It is budgeted through the office of the President and its members have 3-year tenure of office. Dr. Ivo Torturella, a well trained veterinarian with six years (1955-1961) experience at the Pan American Aftosa Center, heads the Commission. Dr. Torturella explained that types A, O and C aftosa virus, plus at least two subtypes of type "O" have been recognized and studied in Brazil. Necessary serologists and vaccine specialists are being trained. Six virus-typing laboratories are being established during November, 1963 at Belem (Pará), Recife (Pernambuco), Barretos (São Paulo), Belo Horizonte (Minas Gerais), Kilometer 47 (Rio de Janeiro), and Porto Alegre (Rio Grande do Sul).

It is planned that these laboratories, in cooperation with various state laboratories and organizations, will be engaged in a continuing program of determining the incidence of the various types and sub-types of aftosa virus in their regions. The Kilometer 47 laboratory will serve as the principal center for confirming and studying various subtype differences.

Twenty laboratories-14 private (5 in Rio Grande do Sul, 7 in Minas Gerais, 2 in Sao Paulo), 2 state (Rio Grande do Sul and Sao Paulo) and 4 in Ministry of Agriculture (Km 47, Barretos, Recife and Belem) - will produce 60 million doses of tri-valent vaccine annually for the first 3 years, sufficient to vaccinate 20 million cattle 3 times each year. Vaccine from the five private laboratories in Rio Grande do Sul will be controlled from the Ministry's Porto Alegre laboratory and that from the seven private laboratories in Minas Gerais and two in Sao Paulo by the Ministry's Belo Horizonte laboratory.

The Brazilian Aftosa Commission has divided the first six years of this program into two 3-year stages. During the first 3-year period the typing and vaccine control laboratories will be soundly established and operational, and research will continue and be expanded on both killed and attenuated vaccines. The latter may be used during this period in the north and northeast areas of Brazil. Since 44 percent of the cattle population is concentrated in Mato Grosso, Goiás, northern São Paulo, and western Minas Gerais, vaccination will be concentrated in these areas. Rio Grande do Sul will also be included, since it contains approximately 12 to 13 percent of the total cattle population of Brazil and shares an extensive border with Uruguay and Argentina. Brazilian veterinary officials have recently held preliminary discussions with representatives of these two countries regarding a cooperative plan to control aftosa along their common borders.

Only killed vaccines will be used in the central, western, and southern areas of Brazil, since meat from some of these animals enters into international trade.

Many cattle move on foot from Mato Grosso and Goiás into northern São Paulo for fattening. They do not move from the northern and northeastern areas, where live attenuated vaccines may be used, into the central and east central areas. However, many cattle move by foot from the extensive grazing areas of Bahia in the east to Sergipe in the northeast where they are fattened before they go to Pernambuco for slaughter.

Another important aspect of the initial 3-year period will be immunization of a large number of the dairy cattle in Brazil. Dr. Torturella has estimated that milk production is decreased each year by approximately 14 percent due to aftosa infection with its resultant drop in milk production and sequelae of mastitis, infertility and other diseases.

The method proposed to accomplish actual vaccination is through a network of farmers cooperatives. One association will be formed in each state or county and veterinarians will train vaccinators on each ranch (fazenda) in proper techniques of vaccination and care of vaccine. Money will be collected from cattle owners in advance to pay for vaccine, so that an adequate supply of vaccine is assured.

It is realized that present vaccine standards are inadequate, and must be adequately revised and enforced to assure efficacious vaccine. A Ministry inspector will visit each private vaccine production laboratory at least once each week.

During the second three-year stage it is expected that sufficient pertinent data will have been collected and adequate supplies of vaccine will be available to greatly enlarge the vaccination program.

Two large biological laboratories are being established in São Paulo, by Chas. Pfizer and Co. Inc. and by the Burroughs-Wellcome Company, Ltd. These laboratories should serve to make available greatly increased quantities of potent aftosa vaccine.

General Considerations

Increasing livestock productivity in any country is an obviously complex and many-faceted program. However, perhaps the most economic and most direct single measure necessary to increase production of livestock and livestock products in Brazil is more effective prevention and control of animal diseases. Such has been the experience in each country which has been able to achieve advanced standards of economic livestock production. It is inefficient to achieve improved genetic strains of animals and then have them die or rendered sterile by the effects of such

diseases as aftosa, brucellosis, and hog cholera. It is costly to put more and better animals on improved pastures and then have them lose 40-50 kilograms of body weight in 12-18 days through aftosa infection, or to be unthrifty and uneconomic due to parasitism and mineral deficiency. These facts are apparent to most Brazilian veterinarians and to many Brazilian livestock officials and livestock producers.

The formation of the Brazilian Aftosa Commission in August, 1963 and the recent decree of November, 1963 to put all Ministry of Agriculture veterinarians and agronomists on full time, instead of one-half or three-quarters time as was previously the case, are indications that the highest echelons of the Brazilian government are increasingly aware of the importance of animal disease control to the economy.

It was evident from discussions with Brazilian veterinary officials that they had been disappointed by the fact that, as reported by them, they had received no answer to disease control programs previously submitted to the Alliance for Progress. (These programs had actually been submitted to COCAP or COPLAN and not approved there.) They believe no technically competent person was available to review their program, and apparently this is the case.

Dr. Lins stated that veterinary officials of the Ministry would be pleased to discuss their problems and programs with a US veterinarian. He is in favor of the USAID PIO/T recommending services of a veterinary disease control specialist to visit in Brazil for a six months period to ascertain what cooperative programs might be worked-out.

There are many well-trained and highly competent veterinarians in the Ministry of Agriculture, the various state governments, and private laboratories. They are well aware of Brazil's major animal disease problems and the methods and measures necessary to deal with them. This is not to say that Brazil, any more than any other country, has at hand all the answers to her problems. However technical assistance alone as might be furnished by a US veterinarian working with the Brazilian Ministry of Agriculture, in the absence of active material support of a program or programs which might be developed would probably be of questionable value.

There are approximately 2,700 veterinarians in Brazil but only about 1,000 of them work as veterinarians. The rest work as farmers, farm managers and in various other capacities. Therefore, even if adequate projects were available and all active national and state government veterinarian personnel were utilized and concentrated on programs such as aftosa, brucellosis, etc., their numbers would be inadequate for a "crash" or so-called "impact" program. This fact is well understood by most Brazilian veterinarians interviewed.

Brazilian veterinarian recommendations for cooperation were primarily for short-term (three to six months) specialists working directly with Brazilian personnel on specific projects. Two priority assistance areas are: Establishment of an adequate biological control laboratory, and a sound system of disease reporting. In order to make such cooperation practical for both sides it would be necessary for both to make preliminary preparations. Before a US specialist goes to Brazil, the interested Brazilian officials should clearly state: what they desire and expect to be accomplished with the aid of specialists; how this fits in with their overall program and needs; and what laboratory facilities, equipment and personnel will be available for this work during the time the specialist is in Brazil. Only in this way can US specialists know what is expected, what to expect, and what equipment, cultures, etc., should be taken to Brazil. Arrangements must be made for money to be available to purchase necessary equipment which these specialists might require.

It is considered that the foregoing requisites are necessary for any proposed technical assistance project. Without this clear and exact understanding it is inevitable that there will be frustration on the part of the specialists, and disappointment and possibly criticism on the part of the foreign counterparts.

The Pan American Aftosa Center has played an extremely important role in training technical personnel in all parts of Latin America in the latest serologic and immunologic methods relating to aftosa. Further, and equally important, it has apparently created a common esprit de corps within these workers, and has served as a catalyst in interesting the governments of many Latin American countries in aftosa control. The Argentina-USAIID-USDA-NAS-NRC aftosa program has also naturally created much interest in neighboring countries. Member countries of the Organization of American States, at their meeting held in Sao Paulo, Brazil, October 29 - November 16, 1963, agreed in a resolution that aftosa was a problem of common interest to all Latin American countries, and that it should be attacked with international cooperation on a regional basis.

It is strongly recommended that if any aftosa control program for Brazil is derived from the USDA-AID agreement it be conducted under the general ground rules as laid down by the Pan American Aftosa Center and in full consultation with the US National Academy of Sciences, National Research Council (NAS-NRC) Advisory Committee on Foot-and-Mouth Disease. It is understood that AID has contracted with NAS-NRC to advise them on scientific programs in Latin America. The NAS then created the Latin American Science Board (LASB) for this purpose. Since there is no veterinarian on the LASB it would be a repetition of previous errors to use such a board to determine animal disease programs in Brazil.

AID Plans and Activities

The proposed livestock production goal for FY 1964 includes disease control as a sub-activity under the improved practices activity. In addition to the PIO/T referred to above, a resident veterinarian is proposed for Rio to work with the Federal Ministry in FY 1964 and another in 1965. Both veterinarians would probably be based in Rio with considerable travel involved.

USDA SURVEY TEAM RECOMMENDATIONS

USAID requests for USDA assistance are for personnel in terms of goals and activities, types of peoples locations, contact orrpoint of work, time periods, and numbers to start in FY 1964 and FY 1965 (Incl. 18). The USDA Survey Team has considered USAID's request for technical assistance both from USAID's and the Brazilian point of view. In addition the Team has reviewed agricultural problems as related to this request. It is understood that AID funds will be available for specific projects to be developed to supplement regular Brazilian appropriations in the areas where technical assistance is to be rendered by USDA. Recommendations which follow are aimed at providing the basis for a proposed PASA agreement between the USDA and AID for personnel for technical assistance in Brazil and are on two levels: procedural; and types of assistance.

Procedural

It is recommended that the technical assistance "package" be handled as a clean-cut arrangement to be developed by the following steps:

1. A written request by the Brazilian Ministry of Agriculture should be made to the United States Department of Agriculture requesting that technical assistance be provided. This request should cover the activities where it is proposed that USDA should have primary responsibility, be addressed to Secretary Freeman, and be specific as to the types of assistance requested. While the request should be brief, it should indicate that the Brazilian Ministry is prepared to support these activities by the provision of adequate Brazilian resources and to be responsible for coordination in the areas concerned with other Brazilian entities. Such entities would include the State Secretariats of Agriculture, SUNAB, SUDENE, ABCAR, Getulio Vargas Foundation, and others. The Minister was so advised by letter while also transmitted the substance of the recommendations in this section (Incl. 19).

2. USAID should enter into a new ProAg with the Ministry of Agriculture covering USDA activities as indicated above.

3. The USDA Survey Team has prepared a proposed PASA agreement with AID to be supplied to both agencies in Washington for negotiations.

4. USAID/Brazil will prepare a PIO/T based on the ProAg and forward this to AID/Washington for approval to permit final negotiations of the PASA agreement.

5. The USDA should be given the opportunity to review both the ProAg and PIO/T in draft form before they are finalized.

Types of Assistance

Recommendations related to USAID requests for technical assistance personnel include those activities where USDA would take primary program responsibility and short-term assistance and other areas where USDA might or might not provide short-term assistance with program responsibility being taken by USAID direct hire personnel or other contractors.

Primary Responsibility Areas

1. Chief of Party - An Agricultural economist or agriculturist should be provided as the USDA Chief of Party to carry out the following functions: Advisory and coordination; supervisory; program planning and development; and administrative. The resident Chief of Party should be authorized a U.S. secretary and should be provided as early as possible in FY 1964. In addition, 70 percent of one man-year should be provided in USDA, Washington, D.C, for administrative back-stopping.

2. Cooperatives - It is felt that cooperatives can contribute greatly to Brazilian agricultural development. Technical assistance could mean the difference in whether or not cooperatives make this contribution. Technical assistance is recommended generally along the lines requested by USAID by providing six resident technicians, although this may prove to be somewhat high (Incl. 19). In addition to short term personnel needs for FY 1964, three man-months are estimated to be needed both in FY 1965 and FY 1966.

3. Credit - This is considered a vital area to the development of Brazilian agriculture. Technical assistance is recommended generally along the lines requested by USAID by providing three resident specialists. In addition, short term personnel are recommended for four man-months both for FY 1965 and FY 1966.

4. Estimates and Forecasts -- Better crop and livestock production estimates and forecasts are needed for program development and economic analyses. Technical assistance is recommended as requested by USAID by providing six man-months both in FY 1965 and FY 1966.

5. Market News - The institution of a market news system is necessary to keep producers better informed and to improve farm income. Technical assistance is recommended as requested by USAID by providing one resident technician.

6. Economic Analysis - It is felt that this is an area that has been neglected and considerable technical assistance will be required if it is to develop and contribute to Brazilian agriculture. USAID requests are probably a minimum. However, it is recommended that USDA generally follow this request for the present by providing two resident specialists. More

people may be required at a later date. Four man-months are estimated as short-term needs for both FY 1965 and FY 1966.

7. Land Transfer - This is apparently a basic problem in Brazilian agricultural development. Both resident and short-term personnel are required. It is recommended that USDA undertake technical assistance for this activity generally along the lines as requested by USAID by providing two resident specialists. In addition, short-term personnel requirements are estimated at four man-months for both FY 1965 and FY 1966.

8. Disease Control - This activity is a requisite to increased live-stock production. It is felt that this activity will require considerably more financial support than in the past if any worthwhile results are achieved, either from Brazilian sources or USAID or both. Providing such support is available, it is recommended that USDA undertake to provide technical assistance generally along the lines requested by USAID providing two resident veterinarians. In addition to USAID's request for FY 1964, six man-months of short-term technical assistance are estimated as necessary in FY 1965 and 1966.

Short-Term Assistance and other Areas

1. Resources Survey - It appears that in view of the short time available exploratory surveys must consist largely of pulling together information which is now available in Brazil. Moreover, Brazilian and U.S. technicians who are familiar with the country's resources should be able to carry out such an exploratory survey more expeditiously than outsiders both unfamiliar with Brazil and with the information available in the many agencies involved. It would appear that USDA technical assistance might be appropriate for some short-term assistance. USAID Project leadership might be provided by direct hire personnel. It is recommended that USDA provide such short-term technical assistance as requested by USAID and recommended by the USDA Chief of Party for specific areas as needed. Such short-term assistance might be on the order of six man-months for FY 1964 or early FY 1965.

2. Resettlement - It seems that this will be a long-term activity which will need continued large - scale U.S. financial assistance. USAID responsibilities might include surveillance and assistance in planning and coordination as well as technical assistance in operations. Under these circumstances it is recommended that USAID direct hire technicians provide the major part of these functions. It would appear that at least two positions would be required. It is further recommended that USDA provide such short term technical assistance as requested by USAID and recommended by the USDA Chief of Party for specific areas as needed. It is suggested that USDA be prepared to provide six man-months for both FY 1965 and FY 1966.

3. Infrastructure - It is felt that this activity can be carried out by Brazilians with USAID direct hire personnel leadership although technical assistance may be needed in certain areas on a short-term basis. It is recommended that USDA provide short-term technical assistance as requested by USAID and recommended by the USDA Chief of Party for specific areas as needed. Such needs are estimated at three man-months for both FY 1965 and FY 1966.

4. Marketing Study - It appears that this study can and should be carried out by Brazilians. General guidance could be provided by the USDA resident agricultural economist recommended under the agricultural analyst activity.

5. Pasture and Forage and Livestock and Feed - This is a very important area to Brazilian agriculture development and should receive considerable technical assistance. The Team feels that this is closely related to the research activity and must be completely coordinated with the planned research program. It is understood that the IRI will undertake with Brazilian agencies the development of an overall Brazilian research program, supervision of carrying out the research needed, insuring that research demonstrations are carried out throughout Brazil, and inventory, reproduce, and distribute research results, past and future. Consequently, it is recommended that IRI undertake the requested technical assistance to carry out this activity as a part of its overall program. The Team further recommends that USDA supply short-term technical assistance in specific subject matter areas as necessary and requested by USAID and recommended by the USDA Chief of Party. If USAID feels that this is not acceptable the Team will recommend that the ARS consider the IRI contract and discuss the program with IRI representatives with a view of a possible cooperative arrangement.

Specific recommendations in terms of goals and activities, technicians, type of specialties, locations, contacts, period and numbers of technical assistance personnel by USDA have been summarized as the basis for a PASA agreement (Incl. 19). Resident personnel recommended total 18 (excluding 70 percent of a man-year in USDA in Washington D.C.) as follows: FY 1964, 6; FY 1965, 8; and FY 1966, 4. This compares with the with the USAID request for 37 resident technicians, or 39 when the Chief of Party and secretary are added (Incl. 18). Short-term personnel needs are estimated at 7.0 man-years for the three-year period to provide technical back-stopping for both resident personnel engaged in the primary responsibility areas and for other USAID activities. This compares with the USAID request for 18 short-term personnel equivalent to 7.0 man-years (Incl. 18).

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* This report deals with the Methodology of crop reporting and should be studied regarding assistance to Brazil in crop and livestock reporting.

INCLOSURE 1 - BRAZIL: USAID PERSONNEL REQUESTS TO USDA ^{1/}

Technician	Type	Location	Contact	Period	Number
Mkt. News and Info.	Marketing Service	Rio	Ministry	2 yrs.	1
Prod. Ests. & Forecasts	Statistician	Rio	Ministry	2 yrs.	1
Econ. Analysis	Research	Rio	Ministry	2 yrs.	1
*Pasture & For. Prod. Res. - Exten.		Paraná Goiás M. Grosso	Ministry	5 yrs.	3
*Coop Tng.	Extension	S. Paulo	Ministry	5 yrs.	1
*Coop Marktg.	Res. - Exten.	Rio S. Paulo R. G. Sul Paraná M. Gerais	Ministry	5 yrs.	5
Coop Consult.	Res. - Exten.	Rio	Ministry	4 weeks	1
*Beef Prod.	Res. - Exten.	Paraná Goiás M. Gerais	Ministry	5 yrs.	3
*Dairy Prod.	Res. - Exten.	Paraná	Ministry	5 yrs.	1
*Gen. Lvstk. Prod.	Res. - Exten.	Goiás	Ministry	5 yrs.	1
*Tng. Spec.-Lvstk.	Res. - Exten.	Rio	Ministry	5 yrs.	1
Disease Control	Veterinarian	Rio	Ministry	6 mos.	1
Marktg. Spec.-Lvstk.	Research	Rio	E T A	5 yrs.	4

1/ Locations are tentative. Necessary Brazilian financing of activities under Project 66, which expires December 31, 1963 is lacking as indicated by asterisks.

SOURCE: USAID/Brazil, ARD, PIO/Ts and program records under FY 1963 program.

INCLOSURE 2 - BARZIL: USDA TEAM ITINERARY

1/

<u>Date</u>	<u>Locations</u>
October 17-20	Travel to Rio de Janeiro
21	Rio de Janeiro
22	Rio de Janeiro
23	Rio de Janeiro
24	Brasília
25	Brasília
26	Goiania
27	Goiania
28	Goiania
29	Salvador, Belo Horizonte
30	Recife, Vicoso, Belo Horizonte
31	Recife, Belo Horizonte, São Paulo
November 1	São Paulo, São Luiz
2	São Luiz, Londrina, Maringá
3	Belém, Porto Alegre, Londrina, Rio
4	Belém, Pelotas, Rio de Janeiro
5	Belém, Pelotas, Porto Alegre Rio de Janeiro
6	São Paulo, Livramento, Rio de Janeiro
7	Campinas, Matão, Porto Alegre São Paulo
8	Campinas, Matão
9	Matão, Campinas, São Paulo Cuiaba, Araraquara, Ribeirão Preto, Jangada
10	Corumba, São Paulo, Campinas Rio de Janeiro
11	Rio de Janeiro, Campo Grande
12	Rio de Janeiro, São Paulo
13	Rio de Janeiro, São Paulo
14-29	Rio de Janeiro
22-29	Return to U.S. <u>2/</u>

1/ Indicates locations of all team members whether Team, group or individual travel.

2/ Five Team members returned on November 22 and three on November 29.

Source: Team members itineraries.

INCLOSURE 3 - BRAZIL: PRINCIPAL USDA TEAM CONTACTS

October 21 - November 21, 1963

<u>LOCATION</u>	<u>AGENCY</u>	<u>PERSONS CONTACTED</u>	<u>POSITION</u>
Rio de Janeiro	Embassy	Hon. Lincoln Gordon	Ambassador
	U AID	Ford Milam	Agric. Attaché
	Food for Peace	James W. Howe	Ass't Director
		Leonard Wolf	Coordinate
		James A. Robinson	Ass't FFP Off.
		William Bair	Ass't FFP Off.
	USAID/ARD	Richard R. Newberg	Director
		Robert H. Warrens	Ass't to Director
		Charles D. Curry	Chief, Econ. Div.
		Howard W. Ream	Chief Prod. & Res. Division
		Kenneth R. Marvin	Chief of Ag. Ed. & Tng. Division
		Phillip D. Smith	Coops.
		Ralph E. Miller	Agr. Credit
		Albert W. Pollard	Crop Prod.
		John C. Hobbes	Prog. Documentation
		Fred W. Barber	Agr. Tng. & Ext.
		Helen A. Bjorklund	Nutrition & Consumer Ed.
		Leonard D. Brooks	Mkt. & Econ. Research
		Boyd T. Whittle	Livestock Devlp.
	Min. of Agr.	José Irineq Cabral	Chief of Cabinet
		Jayme Lins de Almeida	Dir. Gen., DDIA
		João Eligio Florencio	Dir. Dept. Coops. Assist, & Rural Organization
		David Azambuja	Executive Secretary of Agriculture Planning Commission
		Oswaldo Cavalcanti da Costa Lima Filho	Minister of Agri.
		José Smith Braz	Director, Dept. of Economics
		Luiz Melhiur	Ass't to Dir. Dep of Economics

<u>LOCATION</u>	<u>AGENCY</u>	<u>PERSONS CONTACTED</u>	<u>POSITION</u>
Rio de Janeiro	Min. of Agr.	Carneiro de Mendonca	Division Chief Dept. of Econ.
		Arthur N. Seabra	Chief, Econ. Analysis, Div. of Econ.
		Orlando J. Ferreira F ^o	Chief, Servico de Pardronização e Classificação
		<u>Wanderbilt</u> D. de Barros	Director, Departamento de Promoção Agropecuária
	ETA	Jefferson F. <u>Rangel</u> Antonio M. Chaves Antonio Cavalcanti Lincoln M. Rodrigues	Co-Director
	GECRE SUPRA	José Ribamar de Melo <u>Wicar</u> Teixeira Waldemar Mendes	Acting Director Special Ass't to President Soils Advisor
	Nat. Bank of Cooperatives	Paulo Briccio Waldiki Moura	Director
	SUNAB	Director and various members of staff	
	IBEC ABCAR	Paulo J.M. Rangel <u>João Napoleão</u> de Andrade	Director General President
	ACAR	Pedro P. de Castro José P. Ribeiro	Exec. Director Director, M. Gerais
	U.S. Army Inter-American Geodetic Survey Comissão de Solos & Min. of Agr.	Willis C. Corder F.J. Rabito Marcelo N. Camargo Jacob Bennema Abeillard F. de Castro Herodoto da Costa Barros Leonardo Vettore	Lt. Col. Soil Correlator FAO Soils Advisor Director of Pedology & Soil Fertility Division Deputy Div. Soils Div Chief & Sect. in Pedology & Soil Fertility Div.

<u>LOCATION</u>	<u>AGENCY</u>	<u>PERSONS CONTACTED</u>	<u>POSITION</u>
Rio de Janeiro	Servico de Meteorologia	Roberto Pires Ferraz Leandro Riedel Ratisbo- ba José Carlos Junqueira Schmidt Jacy Goncalves de Oliveira	Deputy Dir.
Brasília	USAID Min. of Agr.	Robert Prior Jorge Britto	Senior AID Off. Ass't Director, Depat. of Econom- ics
São Paulo	Am. Consul- ate USAID/ARD ETA State Dept. of Agricul- ture	Daniel Braddock Wayne O. Wenburg Octávio R. Nóbrega Oscar <u>Thompson</u> Filho Rubens Dias Paulo Godoy Ferando Gomes Milton Camargo Jerome Harrington Gilberto Borges Sabeo R. Yassuda Francisco Piza Oswaldo Ramos Almeida Lima Francis Herbert Roland Strang	American Consul Crop Production Chief, S.P. Office Secretary of Agr. Dir. Div. Rural Economics Head, Section of Propaganda & Orientation - Coop. Division Agronomist Div. of Rural E Econ. President Exec. Secretary Director General President Secretary President Director Pres. Swift do Brazil Board of Dir. Swift do Brasil & Head Livestock Buyer

<u>LOCATION</u>	<u>AGENCY</u>	<u>PERSONS CONTACTED</u>	<u>POSITION</u>
Goiania	State	Col. Mauro Borges Teixeira	Governor of Goiás
	State Department	Clovis Fleury	Dir. CASIGO & Act. Sec. of Agr. State of Goiás
	Inst. of Ag. Dev.	Col. Petronio Vieira	President
	State Dep. Agr.	Valerian Znamensky	Dir. Dept of Veg. Prod.
		S. Rodrigues	Director Coop.
	ACAR-GO	Everton de Almeida	Ass. Department Chief Tech.
	Matadouro Ind. de Goiania	Plant Manager	
	Rancher	Lourinal Louza	Owner
	Ministry Farm	Manager & various members	
Morurgo	Coffee Coop.	Aloysio G. Carneiro	Manager
Matão	IRI	Lawrence Quinn	Dir. of Research
	IRI	Luiz M. de Freitas	Soils
	Governor's Off.	Rachid José Jandy	Repres. of Gov. Mato Grosso
Londrina	State Dep. Agr.	Klaus Nixdrof	Regional Representative
	IBC	Rep. of Coffee Inst.	
Maringa	IBC	Aloysio Gomes Carneiro	Mgr. IBC, Maringá
Salvador	American Consul's Office	Wade Mathews	Ass't U.S. Consul
	State Dept. of Agriculture	Renato Medeiros	Sec. Agr. of Bahia
	Min. of Agr.	José Ribeiro de Carvalho	Head of Research Institute and State Delegado for Min. of Agr.
Belem	U.S. Consulate	Hyman Bloom Adolph H. Eisner	General Consul Ass't U.S. Consul
	State Dept. Finance	Henry Checrala Dayath	Head Plan. Dpt. of CIVAT & Sec. Finan.
	Min of Agr.	José Maria Pinheiro Condurú	Dir. Research Inst
		Edgard P. Bezerra	Head of Federal Prom, Dep. for State of Pará
		José Manuel Reis Fer- reira	State Sec. for Production

<u>LOCATION</u>	<u>AGENCY</u>	<u>PERSONS CONTACTED</u>	<u>POSITION</u>
Belem	SPVEA	Octávio Anertano Rocha José de Almeida <u>Villar</u> de Mello Edwardo <u>Grandi</u> <u>Amyntor</u> Basto Joaquim Rodrigues <u>Porto</u> <u>Clara</u> Pandolfo Edmund A. de Silveira J. Magalhães Pinto Roberto Resende Romeu Jacob Alberto Silva Araujo	Ass't to Supt. Ass't to Supt. Economist Sanitary Engineer Civil Engineer Chemist Consul General Gov. State of Minas Gerais Sec. of Agricul- ture State of Minas Gerais Chief, Statistics Unit Chief of Departam- ento de Produção Vegetal and Soil Conservationist Dir. Dept of Asst. Coop. Sup't
Belo Horizonte	U.S. Consulate State Dept.		
	Ass't to Coops	Guaracy Catão	
	CASEMG FRIMISA	Odilon Souza Board of Directors Frigoríficos M.G. S/A (Julio Laender) Malcolm P. Mathieson	Superint. Ind.
	Frigorífico SIPA S/A	Francisco Menezes Alvelino Menezes	Co-owner Co-owner
	Univ. of Minas Gerais	Moacyr G. de Freitas Geraldo Carneiro	Dir. Escola de Veterinaria Produção Animal
Vicosa	Rural Univ. of Minas Gerais	J. Rodolfo Torres Joaquim Mattoso Flamarion Ferreira J. Kenneth McDermott George E. Shuh Joseph H. Conrad	Produção Animal Head, Dept. Zootecnia Reitor, Universida de Rural Chief of Party Ext. Methods- Purdue Staff Ag. Econ. Purdue Staff Animal Nut. Purdue Staff Animal Genet. & Purdue Staff Regional Repr.
Porto Alegre	USAID	Vernon A. Garwood William H. Olson	

<u>LOCATION</u>	<u>AGENCY</u>	<u>PERSONS CONTACTED</u>	<u>POSITION</u>
Porto Alegre	Min. of Agr.	José Carlos V. Guimarães Almiro Brazileno	Dir. Produção Div. of DPA Chief Zootecnia
	State Dep Econ.	Marcos Moraes	Chief Cabinet Off.
	Food for Peace	Edgar Faber	Reg. Off.
	State Dep Agr.	Adolfo Fetter	Sec. Agriculture State of R.G. Sul
		Sergio Padilha Julia Chieche	DVM (State Vet.)
Pelotas	Min. Res. Inst.	Paulo Tholozan Dias da Costa	Director, Research Institute of South
	Agr. College	Renato Pinchott	Dean, College Agr.
	UNESCO	Consultation of Regional Officials of UNESCO sponsored Dairy Coopera- tive	
	Private Farm	Darcy Fontenell	Owner
	Visited Livestock Exposition with Secre- tary Fetter		
Campinas	Visited Coopera- tiva	Sudeste de Carnes, Ltda.	
	Inst. of Agr. Res.	Dr. Paulo Viegas Leonard Sherman	Dir. of Inst. FAO Advisor in Food Technology
		Francisco Verdade	Soil Scientist
		José Bertoni	Soil Conservation- ist
			President
Ararquara	Reg. Coffee Coop.	José M. Ferraz	Secretary
	COCIFE	Reinaldo Rocha	Dir. Citrus Reg. Coop.
	Visited with state delegado and head of Research Institute of Ministry of Agriculture		
Recife	USAID	John Dieffenderfer William Alan Laflin Jack Hansell George H. Hargreaves James O. Maher James L. Haynes James Leo Paschal Henry Morrison Francisco T. De Siqueira Mario Coelho de Andrade Lima	Head of Mission Dir. of AID/ARD Staff of AID/ARD
	Bank of Br.	Elizeu Lyra	Dept. of Coop. Financing
	SUDENE	Mario Leal	Head of Coop. Branch

<u>LOCATION</u>	<u>AGENCY</u>	<u>PERSONS CONTACTED</u>	<u>POSITION</u>
Recife	SUDENE Min. of Agr.	Dr. João <u>Guy</u> Oliveira Lima <u>Manoel Chaves</u>	Ass't to the Rural Div. Director Promoção Agropecuá ria em Pernambuco
São Luiz	State Dept. Agr.	<u>Murilo</u> Berredo Martins	Sec. of Agricul ture State of Maranhão Director
Cuiabá	Medical College of Maranhão State Dept. Agr.	Dr. João B. <u>Portela</u> Theobaldo Zeferino	Crop & Livestock Department Land Dept. Sec. of Agr. Rep. Sec. of Agr.
Campo Grande	State Dept. Agr.	Mario Teixeira Dick Daes Ruben Figueira de Oliveira	
Livramento	Cosial Coop. DVM, Reg. Vet. for State	<u>Leo</u> Brochado Heitor Martins Sergio Flacão Padilha	Tech. Director Cosial Coop. Connected with Breeding Co-op.
	Cosial Coop. Ranch of João de Luz Filho - observed Echinococcus cysts and foot rot in sheep BLUE RANCH	João de Luz Filho Owned by Mercado family.	President

INCLOSURE 4 - BRAZIL: SYSTEMS FOR REGIONAL DIVISION BY STATES AND TERRITORIES

Division by the Brazilian Institute of Geography and Statistics, and the National Geographic Council

Division by the Getulio Vargas Foundation

Division by Dr. Ruy Miller Paiva (FAO)

1. North

Roraima 1/, Amapá, Amazonas, Pará, Acre, and Rondonia.

1. North

Roraima 1/, Amapá, Amazonas, Pará, Acre, Rondonia, plus Maranhão.

1. North

Roraima 1/,, Amapá, Amazonas, Para, Acre, Rondonia.

2. Northeast

Maranhão, Piauí, Ceará, Rio Grande do Norte, Paraíba, Pernambuco, Alagoas, Fernando de Noronha 2/.

2. Northeast

Piauí, Ceará, Rio Grande do Norte, Paraíba, Pernambuco, Alagoas, plus Sergipe and Bahia.

2. Northeast

Maranhão, Piauí, Ceará, Rio Grande do Norte, Paraíba, Pernambuco, Alagoas, plus Sergipe and Bahia.

3. East

Sergipe, Bahia, Minas Gerais, Espírito Santo, Rio de Janeiro, Guanabara.

3. Central-East

Minas Gerais, Espírito Santo, Rio de Janeiro, Guanabara, plus São Paulo.

3. Central

Minas, Gerais, Espírito Santo, Rio de Janeiro, Guanabara, plus São Paulo, Paraná, Mato Grosso, Goiás, Brasília.

4. South

São Paulo, Paraná, Santa Catarina, Rio Grande do Sul.

4. South

Paraná, Santa Catarina, Rio Grande do Sul.

4. South

Santa Catarina, Rio Grande do Sul.

5. Central-West

Mato Grosso, Goiás, Brasília.

5. Central-West

Mato Grosso, Goiás, Brasília.

1/ Formerly Rio Branco

2/ Island

SOURCE: Based on Inventory of Information Basic to Agricultural Programs in America - Brazil, Draft, ICAD, June 10, 1963.

INCLOSURE 5 - BRAZIL: ORGANIZATIONS RELATED TO AGRICULTURE 1/

Organizations other than Ministry and State Secretariats of Agriculture

General Farmers' Organization - Rural associations are provided for by federal law in every municipality. The law further provides for all rural associations in each state to unite to form a federation of rural associations, federations, which in turn form a National Brazilian Rural Confederation (Confederação Rural Brasileira - CRB). In 1961, 62 percent of Brazil's 2,910 municípios had rural associations. This represents a total of 1,804 associations with a membership of 217,777. This membership constituted approximately three percent of Brazil's estimated eight million rural families. The rural associations are strongest in the following regions: the northeast; the east; and the south. Although they constitute a small portion of the rural population, this group is representative of Brazilian agriculture and is one of the few organizations with national coverage.

Cooperatives - Cooperatives in Brazil are subject to many of the problems that confront such organizations in early stages of growth in developing countries. Basic problems center on the need for a more informed and understanding membership, the building of a strong financial structure, and the establishment of sound management practices. In some areas, especially among the strong central associations in São Paulo and Rio Grande do Sul, cooperatives have demonstrated that they can make substantial contributions to member well-being. Also, they have shown that they can be a constructive force in encouraging farmers to adopt self-help principles to improve their economic position. All cooperatives now have to register with the Division of Cooperatives and Rural Organizations of the Federal Ministry of Agriculture which reports on cooperative organizations and membership.

There are several organizations of cooperatives in Brazil: Centro Nacional de Estudos Cooperativos (CNEC); União Nacional das Associações das Cooperativas (UNASCO); and Conselho Nacional de Cooperativismo (CNC). The Ministry of Agriculture at the request of the Coordination Technical Assistance (GCATI), prepared a national plan of incentives for cooperation.

Non-Government Research Agencies - Several groups are important. The Conferencia Nacional dos Bispos do Brasil is primarily interested in rural education by radio, megaphones, pictorial methods to reach those especially who do not read or write. These are effectively used in settlement activities.

1/ The organization of the Ministry is summarized here and given in chart form elsewhere (Incl. 6).

The IBEC Research Institute is a private organization expanding most of its effort on applied agricultural research. It is a non-profit institute founded by Nelson and David Rockefeller as a part of the American International Association for Economic and Social Development (AIA). Work has traditionally been in the use of fertilizers, improvement of campus cerrado soils, improvement of pastures, and work on coffee. The group has recently been renamed as the International Research Institute (IRI) and the program is presently being reoriented in cooperation with the Secretary of Agriculture in Sao Paulo and with USAID.

The Anderson Clayton Company is principally interested in marketing coffee and cotton but has attempted to assist farmers to obtain higher yields through improved agricultural practices. The company conducts an experiment station at Presidente Prudente, São Paulo and employs agronomists to give technical assistance to cotton and coffee suppliers.

The Pan American Center for Foot and Mouth Disease (Centro Pan Americano de Febre Aftosa) is headquartered near Rio de Janeiro and research on foot and mouth disease is carried on for Latin America, including Brazil, under an annual budget of approximately \$600,000 from the Organization of American States.

Other Agricultural Research - Other agencies and organizations carry out studies of interest to agricultural development.

The National Research Council (Conselho Nacional de Pesquisas - CNP) is an autonomous institution under the President to promote scientific investigations. Four institutes are under its direction including the Instituto Brasileira de Bibliografia de Documentacao (IBBD) at Rio to gather scientific information; and Instituto Nacional de Pesquisas da Amazonia (INPA) at Manaus which studies means to improve living conditions in the Amazon region.

The Instituto Joaquim Nabuco de Pesquisas Sociais is in Recife and under the Ministry of Education and conducts research in rural sociology in the northeast.

The Laboratorio de Estatistica (CNE-IBGE) in Rio carries on statistical research of interest of agriculture.

Several Institutes for Research in Agricultural Economics are important, including: Instituto Brasileiro de Economica (IBRE), Fundacao Getulio Vargas; Divisao de Economia Rural (DPV), a division of the Secretariat of Agriculture, Sao Paulo; Instituto de Economia Rural, Vicosa in the State of Minas Gerais; Escritório Técnico de Estudos Economicos do Nordeste (ETENE); Bank of the Northeast of Brazil, in Fortaleza, Ceará; and Faculdade de Ciencias Economicas e Administrativas of the University of Sao Paulo.

Extension - Three departments of the Ministry of Agriculture are concerned with extension. The Brazilian Association of Credit and Rural

Extension (ABCAR) carries on an extensive extension system and is spreading its activities. It was formed in 1956 as an amalgamation of several state organizations. The organization in Minas Gerais was the oldest and was started in 1948 under the AIA. The purpose of ABCAR and the state services is to furnish an education program to assist farmers to increase the efficiency of farming operations and effectiveness of their organization. Supervised and oriented credit are used as tools to teach people and obtain changes in farming operations in some state extension services. The general concept of the service was patterned after the Farmers Home Administration (FHA) in the United States as it originally assisted farmers during depression years of the 1930's. However, an effort is now being made to work with larger farmers and place less emphasis on supervised credit due to the limited coverage possible under that system. ABCAR has agreements to conduct educational work with the following agencies: Federal Ministry of Agriculture; the Ministry of Education and Culture; the Rural Social Service (SSR); the Brazilian Rural Confederation (CRB); the Bank of Brazil; the Technical Office of Agriculture (ETA); The Brazilian Coffee Institute (IBC); and the National Bank of Cooperative Credit (BNCC).

A five-year plan was approved for ABCAR in 1961. Under this plan the Federal Government agreed to contribute 60 percent of its operating expenses for 1961-1962 provided the balance was obtained elsewhere. Federal funds are from the various Ministries concerned, Government entities, and foreign currencies under Public Law 480. In March 1962 the USAID signed an agreement to contribute CR\$770 million for the ABCAR five year plan.

In addition to the supervised credit extension work, ABCAR has made some outstanding studies of agricultural problems in Brazil and held several extension courses for extension workers and technical personnel in related fields. ABCAR covers most of the major agricultural states in Brazil under cooperative agreements with state extension service systems, and plans to expand to other states.

Regional Development Organizations - These organizations cover the greater part of Brazil.

The Sao Francisco Valley Commission (CVSF) is headquartered in Rio de Janeiro and was established in 1948. Its objectives is to develop the Sao Francisco River which contains a total of 625 thous. sq. kilometers by regulation of stream-flow, flood-control, hydro-electric power, large scale irrigation, improved transportation and communication, and improved production and social services.

The Superintendency of the Economic Improvement of the Amazon Region (SPVEA) is located at Belem in the State of Pará and was established in 1953 as an independent agency under the President. The Region comprises

all of the north, the part of Mato Grosso north of the latitude 16 degrees south, that part of Goias north of latitude 13 degrees south and the part of Maranhao west of 44 degrees longitude. The functions of SPEVEA are to stimulate production of agricultural and extractive productions; to encourage cattle breeding, industrial development, and mining; and to improve market conditions.

The Superintendency for Economic Improvement of the Southwest Frontier (SPVF) was established in 1956 with headquarters at Porto Alegre in the State of Rio Grande do Sul and comes under the President. The area covered includes 155 municipalities, some being in Mato Grosso and Parana but the majority are in Santa Catarina and Rio Grande do Sul. Projects to be undertaken includes electrification, transport and communication, health, and agriculture. However, the priorities of these functions are in a different order for each of the states covered.

The Superintendency for Northeast Development (SUDENE) was established in 1959 under the President and is headquartered at Recife, Pernambuco. The Superintendency succeeded several earlier agencies in the area of 1.6 million square kilometers with a population of 25 million people. It covers the northeast plus Sergipe, Bahia, and a small part of Minas Gerais. It includes the Poligono das Secas or chronic drought area. The Superintendency is operating under a five year plan with goals as follows: intensification of industrial development; transportation of the agrarian structure in the humid coastal area; institution of progressive change in the semi-arid zone economy; and to give room for population increase by developing the humid regions of the states of Maranhao and South Bahia.

The Commission for Development of the Tocantins River Basin (CIVAT) was formed in 1962 under a four-state agreement to develop the area between and adjacent to the Araguaia and Tocantins rivers. The area includes: the area adjacent to the southern half of Para's eastern border; the northern portion of Goias immediately adjacent; and the adjoining area along with western border of Maranhao. This development is now in initial stages and help from the federal government is expected.

The Sao Paulo Department of Water and Electrical Energy is in the Paraiba Valley in Sao Paulo. Two types of activities have been undertaken: reconstruction of dikes along 20 kilometers of the Paraiba river to reclaim land; and study of a 50,000 hectare area of the river basin.

Agricultural Education - Brazil has twelve schools of agriculture, eight schools of veterinary medicine, and three schools of home economics. Schools of agriculture had an enrollment of 2,165 in 1961 and schools of veterinary medicine had an enrollment of 833. Estimates by ABCAR in 1959 of the shortages of trained personnel needed were as follows: Agronomists, 2,922; Veterinarians, 1,344; Home Economists, 264; and total, 4,530. Also, a high proportion of graduates are from urban areas

and have no real grasp of farm problems. Complicating this picture is the problem of the local salaries, especially in the Government service which forces people to an additional job, except for the State of Sao Paulo.

Schools of agriculture are located at Belem, Para; Fortaleza, Ceara; Areia, Paraiba; Recife, Pernambuco; Cruz das Almas, Bahia; Km 47, Rio de Janeiro; Piracicaba, Sao Paulo; Curitiba, Parana; Porto Alegre, Rio Grande do Sul; Pelotas, Rio Grande do Sul; Viscosa, Minas Gerais; and Lavras, Minas Gerais. Schools of veterinary medicine are located at Recife, Pernambuco; Salvador, Bahia; Km. 47, Rio de Janeiro; Niterio, Rio de Janeiro; Sao Paulo, Sao Paulo; Curitiba, Parana; Porto Alegre, Rio Grande do Sul; and Belo Horizonte, Minas Gerais. Schools of home economics are located at Viscosa, Minas Gerais; Pelotas, Rio Grande do Sul; and Rio, Rio de Janeiro.

Agricultural Credit - Several entities extend agricultural credit, with over-all coordination, promotion, and training to be performed by the Grupo de Coordenacao de Credito Rural (GECRE) established as a group under the President in 1961.

The Bank of Brazil, Agricultural and Industrial Credit Section (CREAI) began operation in 1937 and in 1960 a total of 226,000 loans were made involving CR\$770 million to 3,000 agricultural establishments. However, such loans amounted to less than seven percent of the numbers of establishments in the areas where loans were made. This covered the north, center, and south regions only. Despite efforts to increase loans to small farmers, about 90 percent of the available credit is supplied to large farmers. Of the total number of the loans made, approximately 85 percent were for crop production with other loans made for livestock, industries, rural industries, cooperatives and others. Over two-thirds of the credit granted for agricultural production went for four crops: rice, coffee, cotton and corn. Rice and coffee received about two-thirds of this amount.

Cooperative credit is extended by three Banks: Bank of Brazil (BBCREAI); the Banco Nacional de Credito Cooperativo (BNCC); and the Banco do Nordeste. The CREAI is the largest creditor to cooperatives, loaning CR\$5.8 billions under 223 loans in 1961.

Credit in the state of Sao Paulo is extended by the Bank of Brazil and the Banco do Estado de Sao Paulo which have 167 agencies in the state (20 percent of the municipalities). This is reportedly the best system of agricultural credit in Brazil.

Other agricultural credit is extended by the following agencies, both public and mixed, to provide rural credit: Banco do Estado da Guanabara S/A; Banco do Credito da Amazonia S/A; Caixas Economicas; Comissao Executive de Recuperacao da Lavoura Cacaueira (CEPLAC); Comissao de Financiamento da Producao; and autonomous institutions

such as the Instituto de Fomento da Bahia, Comissao do Vale do Sao Francisco, Instituto Brasileiro do Cafe, and Instituto Baiano do Fumo. In addition there are some private banks and credit cooperatives.

Other Agencies - A number of other agencies affect agriculture, the more important of which are listed below.

The Instituto Brasileiro do Cafe is under the Ministry of Finance and its administrative board contains representatives of coffee growers, traders and state governments. This organization possesses substantial resources and presently is directing considerable effort to improving the quality of coffee. It also has underway a comprehensive plan for diversification of farm operations by coffee producers. Emphasis is on improving varieties in the best suited production areas and on developing the necessary marketing facilities and services, through cooperatives, to support their diversification program.

The Instituto do Acucar e do Alcool is responsible to the President and its administrative board includes representatives of the Bank of Brazil and the Ministries of Agriculture, Finance, Labor and Public Works and the Sugar Industry.

The Bank of Brazil is under the Ministry of Finance and carries out production, credit, and minimum price program. Other banks which cooperate are: the Bank of the Northeast; and the Bank of Amazonas. CACEX, the foreign trade division, operates with high degree of autonomy in export licenses and determination of exchange rates on agricultural products. Production credit is issued through the Carteira de Credito Agricola de Industrial.

COFAP and COAP (Comissao do Tabelamento de Precos) - the first group in the Federal Government and the second in the states were in charge of producer and retail price controls respectively for essential food articles. SUNAB has now taken over these functions.

The Conselho Coordenador do Abastecimento was created by Presidential decree to work with other agencies for plans connected with supply programs.

The National Superintendency for Food Supply (SUNAB) is under the President and is responsible for the coordination of national food supplies. It carried out both agricultural planning and programs.

The Coordinating Agency for the Alliance for Progress (COCAP) is the central office for coordinating Alliance for Progress efforts and financing is located in the Ministry of Finance.

The Federal Ministry of Agriculture

By the law of 11 October 1962, the Ministry of Agriculture was re-organized. The Ministry, in addition to administrative divisions, now includes the sections indicated below.

Section of National Insurance (Secao de Seguranca Nacional - SSN).

Council of the Federal Fund for Agriculture and Livestock (Conselho do Fundo Federal Agropecuario - CFF).

National Advisory Council for Agriculture (Conselho Nacional Consultivo da Agricultura - CNC) This includes one representative of each of the following groups: Confederacao Rural Brasileira, Uniao Nacional das Cooperativas, and the rural laborers.

The Commission for Planning Agricultural Policy (Comissao de Planejamento da Politica Agricola - CPPA) This Commission coordinates the work of the various branches of the Ministry.

Commission for the Interchange and Coordination of International Technical Assistance (Comissao de Intercambio e Coordenacao de Assistencia Tecnica Internacional - CICATI).

Coordinating Commission for Agricultural Credit (Comissao de Coordenacao do Credito Agropecuario - CCCA) The function is to coordinate the agricultural credit policy of the various superintendencies, banks, Ministry of Finance, and the Ministry of Agriculture.

Department of Crop and Livestock Experiment and Research (Departamento de Pesquisas e Experimentacao Agropecuarias - DPEA) This Department contains the following sections:

Divisao de Pedologia e Fertilidade do Solo (Soils)

Divisao de Fitotecnia (plant technology)

Divisao de Zootecnia e Veterinaria (biological technology and medicine)

Instituto de Oleos (oilcrops)

Instituto de Fermentacao (alcohol)

Department to promote Agriculture and Livestock (Departamento de Promocao Agropecuaria - DPA) The Department is responsible for some extension work, including the training of extension workers, the promotion of cooperatives, production of seeds and seedlings, and resale of agricultural and livestock materials. Stations and farms are throughout Brazil.

Economics Department (Departamento Economico - DE) Its work includes planning, economic analysis, crop forecasts, and production statistics.

Department of Agricultural and Livestock Control and Inspection (Departamento de Defesa e Inspecao Agropecuaria) This office includes sections for plant and animal health protection, a service to classify and standardize, and one to inspect agricultural products and materials.

Department of Renewable Natural Resources (Departamento de Recursos Naturais Renovaveis - DRNR) It includes a Forestry Division, a Wildlife Division, and the Botanical Gardens.

Superintendency of Agricultural and Veterinary Education (Superintendencia do Ensino Agricola e Veterinario - SEAV) This section is responsible for the orientation and control of the various levels of agricultural and veterinary education. The Rural Universities of Brazil and Pernambuco and their schools remain directly under the Minister of Agriculture.

Department for Indian Welfare (Servico de Protecao aos Indios - SPI).

Agricultural Information Service (Servico de Informacao Agricola - SIA).

Meteorological Service (Servico de Meteorologia - SM) This is the central organization for meteorological research and information, and for studies on agricultural climatology.

The following entities are directed by the Ministry of Agriculture:

National Bank for Cooperative Credit (Banco Nacional de Credito Cooperativo - BNCC).

Superintendency for Fisheries Development (Superintendencia do Desenvolvimento da Pesca - SUDEPE).

Superintendency of Agricultural Policy (Superintendencia de Politica Agraria - SUPRA).

State University of Pernambuco (Universidade Rural de Pernambuco - URP).

Rural University of Brazil (Universidade Rural do Brasil - URB) This is situated at Kilometer 47, Rio de Janeiro.

The Departments and Services also have sections and stations in the States. The plan is for all to be represented in each state, although this has been accomplished only in part. For example, there are no representatives in Mato Grosso.

Federal activities of the Ministry in the states are to be coordinated through Regional Coordinators for policy and State Delegatos for Administration. Regional Representatives are planned as follows by location and coverage: Belem-Para, Amazonas, Roraima, Amapa, Acre, and Rondonia; Recife - Pernambuco, Paraiba, Rio Grande do Norte, Ceara, Piaui, Maranhao, Alagoas, and Sergipe; Belo Horizonte - Minas Gerais,

Bahia, Espirito Santo, Rio de Janeiro, and Guanabara; Goiania - Golas, and Mato Grosso; and Sao Paulo - Sao Paulo, Parana, Santa Catarina, and Rio Grande do Sul.

Each coordinator and delegate is to be assisted by an Advisory Council (Conselho Tecnico Administrativo - CTA) for each state composed of the Coordinator, the Delegato, and the Chiefs of each of the Federal Department and Services, sections, or stations present in the state. Coordinators and delegates appear to be political appointees in certain instances.

In addition to these agencies, there are the six regional agronomic institutes under the DPEA which will now combine work on crops and livestock problems:

Instituto de Pesquisas e Experimentacao Agropecuaria do Norte (IPEAN) - Belem, with two sub-stations.

Instituto de Pesquisas e Experimentacao Agropecuaria do Nordeste (IPENE) - Recife, with six sub-stations.

Instituto de Pesquisas e Experimentacao Agropecuaria do Este (IPEAL) - Cruz das Almas, Bahia with three sub-stations.

Instituto de Pesquisas e Experimentacao Agropecuaria do Oeste (IPEAO) - Sete Lagoas, Minas Gerais, with seven sub-stations.

Instituto de Pesquisas e Experimentacao Agropecuaria do Centro-Sul (IPEACS) - Km. 47, Rio de Janeiro, with three sub-stations.

Instituto de Pesquisas e Experimentacao Agropecuaria do Sul (IPEAS) - Pelotas, Rio Grande do Sul, with five sub-stations.

Some agronomic institutes experiment with both livestock and crops. Experimental work on pastures is under the DPEA which has general charge of livestock production and experiment work.

Little has been published on the work done by the experiment stations in the past. In 1961, however, a list of 1,205 crop research projects was published by ABCAR on the basis of material obtained from CNEPA (Centro Nacional de Estudos e Pesquisas Agronomicas). Of the 1,205 experiment station projects, 534 were concerned with the development or testing of crop varieties, and 423 were concerned with fertilizer experiments. These two subjects of study together accounted for 90 percent of the total. They are followed in importance by 74 experiments in the spacing of plants in the field, 63 experiments on dates of planting, and from 20 to 30 each on use of herbicides or fungicides, selection and treatment of seeds and various cultural practices.

One of the farmers most constant problems is to control or prevent the growth of weeds. On this subject the only work mentioned was the use of herbicides in ten experiments on corn, cotton, sugarcane, coffee, and some vegetable crops. On the general problem of soil management there were nine experiments on wheat, potatoes, coffee, sugarcane, and fruits.

Classified by crops, 289 experiments were on various problems concerned with sugarcane, 158 on corn, 103 on wheat, and 59 on coffee. Only one experiment was reported on bananas. Only one was on cacao. Other experiments on cacao are performed at the Bahia State Experiment Station at Urucuca, though this station is reported as being not very active because of personnel and financial difficulties.

All experiments reported were on individual crops. None were reported on rotations or systems of crops, although the cropping system as a whole is one of the farmer's principal problems.

State Secretariats of Agriculture

The State Secretariats of Agriculture are generally somewhat organized along the lines of the Federal Ministry. Organization varies by state and ranges from rather large organizations as in Sao Paulo, to small organizations as in Mato Grosso, and to a secretariat stripped of most of its functions in the state of Goias. In Goias mixed companies took over most of the functions.

A number of states have an extensive program of experiment work and some work is planned in others. Principal stations by state are:

Pernambuco

Departamento de Producao Vegetal with six experiment stations.
Instituto de Pesquisas Agronomicas with an experiment station at Dois Irmaos, Recife.

Sergipe

Two experiment stations.

Minas Gerais

Instituto Agronomico de Minas Gerais, four experiment stations and five sub-stations.

Bahia

Instituto de Cacau de Bahia
Experiment Station at Urucuca (for cacao)

Espinto Santo

Six experiment stations

Rio de Janeiro

Two experiment stations

Sao Paulo

Instituto Agronomico (Campinas), with 20 experiment stations.

Experiment work at the agricultural school of Piracicaba.
Instituto Biologico with an experiment farm at Mato Dentro, to
study phytosanitary problems of coffee, cotton, and other crops.

Parana

A station at Teixeira Soanes

Santa Catarina

Three stations

Rio Grande do Sul

Secretaria de Agricultura with 11 experiment stations.

Rice experiment station at Gravatai of the Instituto Rio Grandense
do Arroz and the Secretaria de Agricultura.

Maranhao

Secretaria de Agricultura, Sao Luiz, with several sub-stations.

Goiias

Secretaria de Agricultura, Goiania.

Mato Grosso

A station is being developed by the Secretaria de Agricultura
near Corumba.

Other

Other states also have stations but data is incomplete.

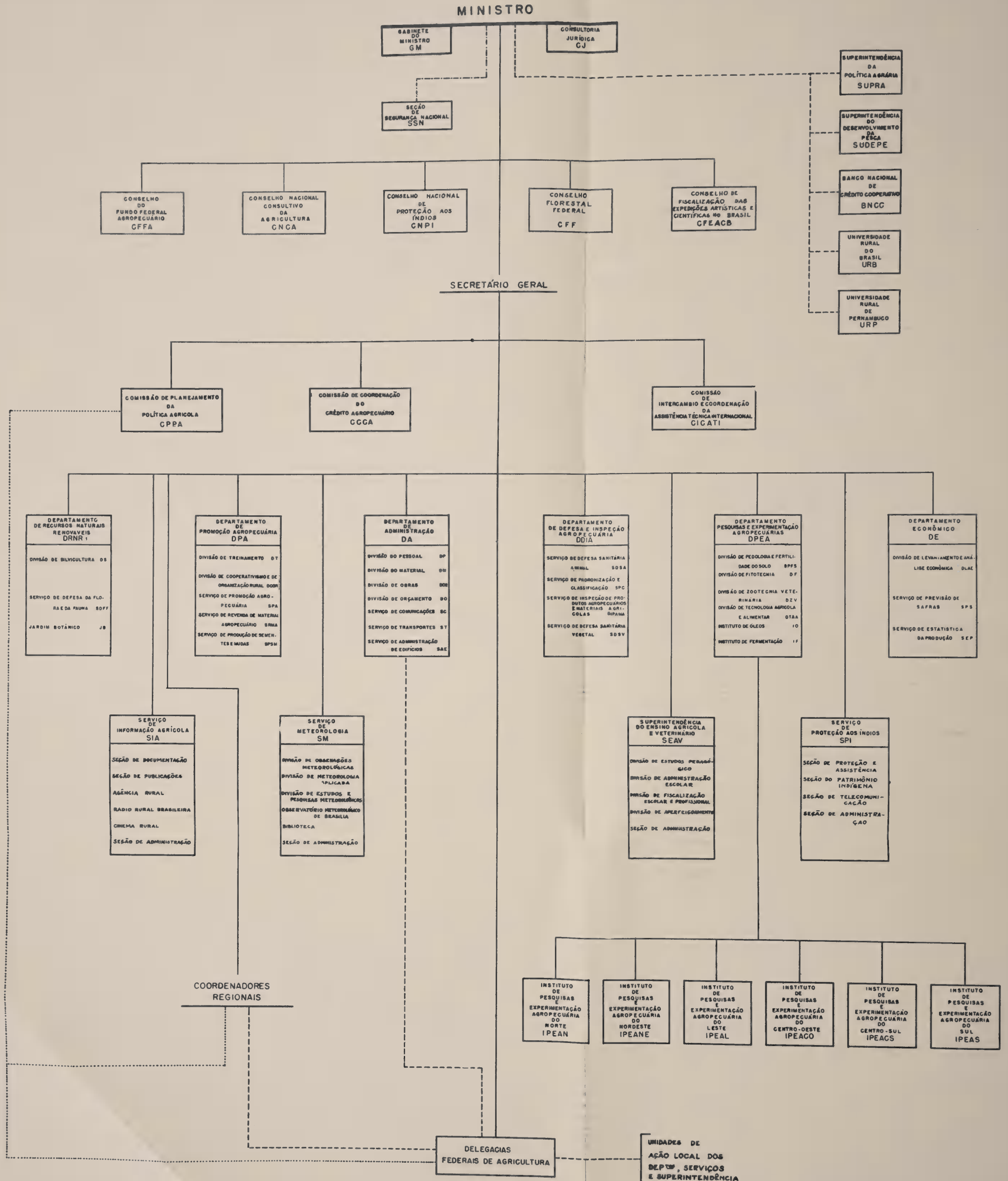
ENCLOSURE 6 --BRAZIL:
MINISTERIO DA AGRICULTURA

ÓRGÃOS DE POLÍTICA E ACESSORAMENTO

ÓRGÃOS CENTRAIS

ÓRGÃOS REGIONAIS

ÓRGÃOS LOCAIS



— SUBORDINAÇÃO INTEGRAL
- - - - - SUBORDINAÇÃO TÉCNICA
- - - - - SUBORDINAÇÃO ADMINISTRATIVA
- - - - - SUPERVISÃO E COORDENAÇÃO

INCLOSURE 7 - BRAZIL: DISTRIBUTION OF AGRICULTURE PROGRAM RESOURCES,
DOLLAR EXPENDITURES AND CRUZEIROS PROGRAMMED, FY1954
THROUGH FY1962 1/

(figures in thousands)

Category	Grant <u>1/</u> Dollars	Joint Funds (ETA)		Third <u>2/</u> Party CR\$
		US\$	CR\$	
Direct support, ETA program	-	2,577	430,000 ^{3/}	540,324
ETA "projects" <u>4/</u>	-	(1,811)	(173,000)	(540,324)
Other ARD activities <u>5/</u>	-	(766)	(257,000)	-
Other Costs <u>6/</u>	6,479			
Total	6,479	22,577	430,000	540,324

1/ Includes some expenditures in FY1963 against old program.

2/ Excluding dollar contribution to ETA joint funds.

3/ Amount agreed to in ETA agreements. Actual payments probably around CR\$450 million.

4/ Firm figure. Two lower figures have doubtful accuracy.

5/ Based on amounts in ETA agreements. Some projects have unexpended balance. Projects by type, number, and U.S. contributions in dollar were: general, 17 and \$380,000; extension, 13 and \$747,000; crops, 10 and \$219,000; soil and water resources, 10 and \$153,000; livestock, 8 and \$293,000; and education, 8 and \$44,000.

6/ Includes ETA administrative dollar costs.

7/ Includes costs of direct-hire advisors, contracts, participants and others. It is estimated that direct-hire personnel averaged about 38 people for all of Brazil and contract personnel averaged about 8.

Source: USAID, ARD. Dollar figures based on expenditures CAP "Terminating Projects"; ETA project totals based on ETA Agreements.

INCLOSURE 8 - BRAZIL: SUMMARY OF FY1963 ARD PROGRAM DOCUMENTS

PROJECT TITLE AND NUMBER	TOTAL DOLLARS OBLIGATED	TOTAL BRAZILIAN CRUZEIROS	PIO/T			Training	PIO/C Total
			Total	Services	Procurement		
AGRICULTURAL EDUCATION 512-A-11-AM Piracicaba - Rev. no. 1 Rio Grande do Sul- Original Vicosia - Rev. no. 2 Secondary Education - Rev. no. 3	965.0	521,300	965.0	621.0	234.0	110.0	-
	903.0	202,000	903.0	580.0	224.0	99.0	-
	520.0	44,000	520.0	197.5	231.0	91.5	-
	29.0	275,000	-	-	-	-	13.2
	(2,417.0)	(1,043,300)	(2,388.0)	(1,398.5)	(689.5)	(300.5)	15.8 (29.0)
LIVESTOCK FEED&FORAGE PROD.512-A-13-AL Research - Rev. no. 1 Fertilizer - Original Seed - Rev. no. 2 Pasture and Forage - Rev. no. 3	2,033.8	300,000	2,033.8	1,303.8	608.0	122.0	-
	135.0	1,200	135.0	135.0	-	-	-
	235.0	0	235.0	135.0	20.0	30.0	-
	435.0	0	200.0	200.0	-	-	32.0
	(2,838.8)	(301,200)	(2,603.8)	(1,823.8)	(628.0)	(152.0)	203.0 (235.0)
LIVESTOCK CRED.& MARKTG 512-A-14-AM Rural Economics - Original Marketing - Revision no. 1 Cooperatives - Rev. no. 2 Rev. no. 3	180.0	89,000	180.0	173.0	7.0	-	-
	425.0	5,000	325.0	318.6	6.4	-	-
	550.0	0	100.0	100.0	-	-	-
	47.0	0	545.7	545.7	-	-	47.0
	(1,202.0)	(94,000)	(1,155.0)	(1,141.6)	(13.4)	-	(47.0)
LIVESTOCK ADVISORY SERVICES 512-A-13-AN Production - Rev. no. 1 ABCAR - Original	492.0	0	66.8	66.8	-	-	37.2
	117.4	600,000	373.8	373.8	-	-	23.9
	(609.4)	(600,000)	(454.8)	(454.8)	-	-	9.1 84.4 (154.6)

FOOD DISTRIBUTION - 512-A-13-AO (no ProAg)		31.0	18.0 13.0 (31.0)	18.0 13.0 (31.0)	-	-	-
ETA PROJECT No 66		-	755,159	-	-	-	-
TOTAL		7,098.2	2,793,659	6,632.6	4,849.7	1,330.4	452.5
							465.6

1/ Based on Program Agreements. Cruzeiros include Ministry contributions.

Notes: 1. The Research ProAg contemplates using the cruzeiro equivalent of \$581,600 of PL 480 funds in 1964, and similar amounts in later years from PL 480 or other sources. 2. An additional CR\$600,000 of PL 480 funds are programmed for the ABCAR Program. 3. The Ministry of Agriculture has programmed CR\$530 million for ETA; not reflected in above figures. 4. PIO/Ps from FY63 funds totalled \$214,900. 5. ETA Project 66 provides cruzeiro support for ProAgs on Seed, Pasture and Forage, Cooperatives, and Production.

Source: USAID/ARD, July 11, 1963.

INCLOSURE 9 - BRAZIL: PERSONNEL REQUIREMENTS AND PROGRAM BASED ON 1963 PROGRAM

SPECIALITY	COLLEGE CONTEACTS	IRI	OTHER	DIRECT
	: Minas Gerais: R.G. do Sul : São Paulo	: RESEARCH	: CONTRACTS	: HIRE
(98)	(17) (9) (11)	(16)	(24)	(21)
Forage (9)	Agron. (PF)	Prod. Mgt. For. Agron. For. Physiolog.	PF Agron. 1/ PF Agron. 1/ PF Agron. 1/	Agron. Adv. P&F Adv.
Soils (8)	Soils Spec.	Fert. Mgr. Soil Chem. Plant Nutrit. Anal. Chem.		Soils Adv. Soil Cons. Adv. Soil Cons. Adv.
Livestock Production (9)	Lvstk Spec.	Mngt Spec.	Beef Spec. 2/ Beef Spec. 2/ Beef Spec. 2/ Dairy Spec. 2/ Gen. Lvstk Spec. 2/	Dairy Adv. Dairy Adv.
Animal Sciences (13)	An. Breeder An. Nutrit. Disease Control Dairy Tech. Dairy Tech.	Nutr./Dis. Cont. Food Tech.-Meat Food Tech.-Meat Food Tech.-Meat	Rumen Nutr. Swine Nutr. Poultry Nutr.	
Extension (13)	Sociol.-Ldr. Ext. Leader Home Mgt. Sp. Ext. Home Ec.	Ext. Leader		Adv. Area Rural Youth Adv. Area Adv. Training Adv. Info. Adv. Info. Home Econ.

SPECIALITY	COLLEGE CONTRACTS		IRI	OTHER	DIRECT
	:	:			
	:	:	RESEARCH	CONTRACTS	HIRE
	:	:	:	:	:
	: Minas Gerais : R.G. do Sul : São Paulo				

Cooperatives (8)

Coop Adv. 3/ Credit-Coop.
 Coop Adv. 3/ Coop Adv.
 Coop Adv. 3/
 Coop Adv. 3/
 Coop Adv. 3/
 Coop Adv. 3/

Economics (20)

Production Ec. Ag. Econ. Gen. Ag. Mkts.
 Mktg-Price Ag. Econ-Mktg Ag. Mktg.
 Gen. Econ. Ag. Econ. Ag. Mktg.
 Ag. Mktg.

Farm Mgt.

Mktg-Meat 4/ Mktg. Adv.
 Mktg-Dairy 4/ Mktg. Adv.
 Mktg-Poultry 4/
 Mktg-Gen. 4/

Crops (11)

Horticult.
 Plant Breed.
 Crop Spec.

Leg. Microbiol. Seed Tech. 6/ Agron. Trop.
 Wheat Agron. Seed Cert. 6/
 Seed Prod.
 Veg. Crops

Other (7)

Hum. Nutr.
 Agr. Engr.

Training Spec. 2/ Educ. Adv.
 Storage Adv.

- 1/ Pasture and Forage Improvement 4/ Livestock Marketing Services
- 2/ Livestock Advisory Services 5/ Rural Economic Services
- 3/ Coop Advisory Services 6/ Seed Improvement

Note: Direct-hire positions do not include four technical support positions.

Source: USAID/ARD, June 4, 1963

INCLOSURE 10 - BRAZIL: ESTIMATED LIVESTOCK NUMBERS, SLAUGHTER AND MEAT
PRODUCTION 1961

Class	Esti- mated Numbers	Est. Reported Slaughter			Est. Unreported Slaughter		
		Number	Sl.Weight	Carcass Wt.	Number	Sl.Weight	Carcass Wt.
	(mil)	(mil)	(kg)	(1,000M.T.)	(mil)	(kg)	(1,000 M.T.)
Cattle	76	7.1	192.5	1,369	1	180	180
Hogs	50	8.0	66.8	534	3	50	150
Poultry ^{1/}	186	6.7	1.195	8	95	1.052	100
Sheep	19	1.6	15.6	25	1	15	15
Goats	12	1.6	11.2	18	1	10	10
TOTAL	-	-	-	1,954	-	-	455

^{1/} Estimated 90% chickens, 7% ducks and geese, and 3% turkeys.

Source: Based on USAID, ARD, Draft Paper dated February 6, 1963.

INCLOSURE 11 - BRAZIL: ESTIMATED POTENTIAL MEAT PRODUCTION WITH LIVESTOCK
DEVELOPMENT PROGRAM IN NUMBERS, SLAUGHTER, AND
MEAT PRODUCTION 1970

Class	:Esti- :mated Numbers	: Est. Reported Slaughter			: Est. Unreported Slaughter		
		Number	Sl.Weight	Carcass Wt.	Number	Sl.Weight	Carcass Wt.
	(mil)	(mil)	(kg)	(1,000M.T.)	(mil)	(kg)	(1,000MT)
Cattle	95	16	180.0	2,880	1	180	180
Hogs	50	16	64.9	1,040	3	50	150
Poultry ^{1/}	275	250	1.20	300	95	1.052	100
Sheep	30	2	17.5	35	1	15	15
Goats	12	2	7.5	15	1	10	10
Total	-	-	-	4,270	-	-	455

^{1/} Estimated 93% chickens, 5% ducks and geese, and 2% turkeys.

Source: Based on USAID, ARD, Draft Paper dated February 6, 1963.

INCLOSURE 12 - BRAZIL

PROPOSED FY 1964, USAID ARD PERSONNEL NEEDS 1/

Goal/Activity	Direct	Contract		Total	Total
	Hire	Resident	Short-term		
Education	2	52	17	69	71
Piracicaba		10	4	14	
R.G. do Sul		9	4	13	
Vicosa		17	2	19	
Ceará		10	5	15	
Bahia		6	2	8	
Secondary Education		-	-	-	
Frontier Develop	1	21	4	25	26
Migration Study		-	-	-	
Araguaia Tocantins		11	-	11	
Resources Survey		2 <u>3/</u>	4 <u>3/</u>	6	
Resettlement		6 <u>3/</u>	-	6	
Land Transfer		2 <u>3/</u>	-	2	
Marketing	7	21	22	43	50
Farm Supplies:					
Fert. Studies			3 <u>5/</u>	3	
Bal. Feeds		-	-	-	
Seed Improv.		2 <u>6/</u>	3 <u>6/</u>	5	
Coop. & Cred:					
Coops.		6 <u>3/</u>	2 <u>3/</u>	8	
Credit		3 <u>3/</u>	-	3	
Food Dist:					
Storage, Proc. & Dist.		3 <u>7/</u>	2 <u>7/</u>	5	
Information		-	-	-	
Infrastructure		4 <u>3/</u>	4 <u>3/</u>	8	
Econ. Services:					
Est. & Forecasts		- <u>3/</u>	1 <u>3/</u>	1	
Market News		1 <u>3/</u>	-	1	
Econ. Anal.		2 <u>3/</u>	-	2	
Northeast Mrkt Study		-	7 <u>3/</u>	7	
Livestock Prod.	2	33	12	45	57
Research:					
Prod. Devel.		16 <u>2/</u>	5 <u>2/</u>	21	
Cataloging (NE)		4 <u>2/</u>	2 <u>2/</u>	6	
Impr. Practices:					
Inst. Dev.		-	-	-	
Devl. Program:					
Past. & Forage		3 <u>3/</u>	-	3	
Lvst & Water		2 <u>8/</u>	-	2	
Lvst & Feed		6 <u>3/</u>	4 <u>3/</u>	10	
Disease & Cont.		2 <u>3/</u>	1 <u>3/</u>	3	
State Progs.		-	-	-	
TOTAL	22	127	55	182	204

1/ FY1964 & 1965 2/ IRI 3/ Possible USDA 5/ Agr-Research 6/ Miss. State
7/ Weitz-Hettelsater 8/ Undetermined

INCLOSURE 13 - BRAZIL: STORAGE AND TRANSPORTATION

Brazilian agriculture has demonstrated its capability to produce sufficient amounts of most field crops to meet domestic needs. Notwithstanding this capability, severe food shortages and price crises occur often.

The market functions of transportation, storage, and processing are of strategic importance if these conditions are to be eliminated and if further agricultural development is to take place. These functions, however, are closely interrelated with a number of complementary marketing services. These include: grades and standards, crop and price reporting, establishments of price differentials to reflect variations in quality, and credit.

The Present Situation

Wide variations exist as to the types of farm storage facilities used in Brazil. These facilities have been described as receiving harvested products "in bulk, sacks, baskets or leather bags; loose on the hard ground, brick floors, cement floors, boards, porches, cribs, verandas or on platforms."

Various estimates of losses from the time of harvest until crops reach some type of commercial storage range from 10 to 70 percent and average 15 to 20 percent. These losses are traced largely to insects; rodents; and weather, including rain, wind, sun and dust.

Other factors important in explaining farm storage are: The size of the farm business, the knowledge possessed by farm operators as to types of materials available in any given community to construct storage facilities, and the credit position of producers.

The condition of off-farm storage, in most instances further compounds the problems of Brazilian farmers. A large proportion of this storage is old and antiquated. Much is flat storage. Often the state of maintainance is low. In addition costs are high reflecting inefficient use of labor, the practice of maintaining the individual identity of each producer's production, and small scale operation that makes it difficult if not impossible to install modern equipment.

Contrary to general opinion and notwithstanding the aggressive government storage programs in some states, the bulk of available storage in Brazil is in private hands. As of 1963, the proportion of storage in the private sector was estimated to range from between 80 to 85 percent.

The distribution of available storage between silos (essentially grain elevators) and warehouses and between the private and government sectors for 1962 was reported as follows:^{1/}

<u>Type of ownership</u>	<u>Type of storage</u>		
	<u>Silos:</u>	<u>Warehouses:</u> (1,000 tons)	<u>Total</u>
Private	504	59,431	59,935
Government ^{2/}	<u>266</u>	<u>7,451</u>	<u>7,717</u>
Total	<u>770</u>	<u>66,882</u>	<u>67,652</u>

Only the State of Parana has detailed and comprehensive information available as to the type of warehouse facilities in operation. The following breakdown gives the capacity and number of warehouse facilities in 1963 according to type of ownership:

<u>Type of storage</u>	<u>Capacity</u> (1,000 tons)	<u>Facilities</u> number
Private	1,547	30
Governmental	959	53
Railroad	129	28
IBC (Coffee)	787	16
SUNAB	12	3
State	<u>31</u>	<u>6</u>
TOTAL	<u>2,506</u>	<u>83</u>

Of the total silo capacity, about 60 percent is divided evenly between the states of Sao Paulo and Rio Grande do Sul. Seventy five percent of the total warehouse space is in three states - Sao Paulo, Rio Grande do Sul, and Parana. Half of this total is accounted for by Sao Paulo and the remainder is evenly divided between the other two states.

The proportion of private storage accounted for by cooperatives is not known. The Government storage reportedly includes "mixed companies." The government in effect exercises a large degree of control over these companies through the ownership of at least 51 percent of outstanding stock. It is further estimated that the coffee stored in government warehouses amounts to 3,000,000 tons, or nearly 50 percent of government storage. Some non-agricultural and industrial products also are stored in these warehouses.

^{1/} See Weitz-Hettelsater Engineers. Marketing Facilities for Grain and Tuberous Crops, a study contracted for by AID, 1963.

^{2/} Includes ownership and operation of warehouses by the Federal Railway System and the National Coffee Institute.

Typical among the services provided by warehouse operators are: handling supplies; fumigating products, processing and, in some instances, drying produce; and provisions for credit, either direct from dealers, or, in the case of cooperatives and state warehouse operations, through bank loans made on warehouse receipts.

It is reported, for example, in the case of rice that the Bank of Brazil will advance producers 50 percent the value of their crops. Cooperatives can obtain a loan up to 60 percent the value of products. Generally cooperatives are in position to supplement these loans so that members may obtain loans that total altogether 80 percent the value of their products.

While little information is available, much the same conditions appear to prevail with respect to the cold and refrigerated storage situation. This has particular application to such agricultural products as fruits and vegetables and poultry and eggs.

Transportation is a critical service in the effective distribution and use of agricultural resources in Brazil. The fact that agricultural production is concentrated in the southern states emphasizes this situation.

As nearly as can be determined, the distribution of cereal movement in Brazil by type of carrier in 1960 was as follows:

<u>Type of carrier</u>	<u>Volume</u>
Trucks	75
Rail	15
Water	<u>10</u>
Total	100

The serious nature of the transportation problem that confronts Brazilian Agriculture is highlighted by the following observations:

A. Of the nations' 500,000 mile road system, only about 3 percent are paved inter-city roads. Consequently truck transport costs are high and many communities are difficult if not impossible to service.

B. The present railroad system is ill suited to the needs of modern Brazil. One complication is the fact that three separate gauges are in use, thus making effective interchange of freight costly and difficult. Railroads were originally built to only tap interior regions and move products to port for export. Thus no coordinated intra-national transportation system has been developed.

C. Water transportation is relatively slow and is reported to be characterized by excessively high labor costs. Moreover, many ships are old and poorly maintained. It is reported that as high as 25 percent of all cargo ships are out of commission at any given time and that 20 percent of the remainder are in the process of repair.

Brazilian officials are well aware of the critical importance of storage and transportation in development of their agriculture economy. Some of their more important efforts are:

A. On a national level SUNAB, an autonomous agency responsible to the President, has been established. In addition to price control functions, this agency is authorized to construct and operate necessary storage facilities through a subsidiary company. This is done through central and state government operations and through mixed companies.

By states, the capacity and number of facilities in 1963 warehouses operated by SUNAB through COBOR, its warehouse operating agency were reported as follows:

<u>State</u>	<u>1963</u>	
	<u>Capacity</u> (1,000 tons)	<u>Facilities</u> (number)
Piaui	8	2
Ceara	19	4
R.G. do Norte	12	3
Paraiba	4	1
Pernambuco	5	2
Alagoas	12	3
Sergipe	12	3
Bahia	3	1
Espirito Santo	4	1
Minas Gerais	8	2
Sao Paulo	4	1
Goiias	4	1
Mato Grosso	4	1
Brasilia (D.F.)	19	
Parana	10	3
Santa Catarina	60	12
Rio Grande do Sul	<u>405</u>	<u>40</u>
Total	593	80

Of the total tonnage reported 65 percent was in operation and 35 percent was idle.

B. Some state agencies are likewise actively engaged in storage operations. In the state of Goias, for example, the State Institute of Agricultural Development has set up CASEG to handle storage operations. This agency recently received a loan of 320,000,000 cruzeiros from the Bank of Brazil to construct 14 warehouses with a capacity of 51,000 tons. Some 180 private firms in Goias have a storage capacity of 1,500,000 bags - the approximate capacity now possessed by GASEG. GASEG also reports a tendency for private storage firms to speculate in grain to the disadvantage of producers who have little in the way of adequate storage facilities. Through a subsidiary company, GESCO, the state also distributes a number of basic production supplies to farmers.

In the state of Minas Gerais much the same storage situation exists. There, a mixed company, CASEMG, (largely state owned) provides storage services and distributes basic production supplies. Most state storage operations also are giving attention to training their operative personnel.

Brazil also has plans for improving its transportation situation. In summary these call for:

A. A 50 percent increase in present railroad mileage. About one-fourth of this is now under construction and emphasis is on coordinating the present rail system and developing additional lines to help open up frontier areas.

B. A port plan calling for further development of 16 ports and supported by necessary improvements in ships and storage facilities.

C. A road system calling for the development of numerous trans-continental roads and construction and surfacing of a large number of connecting and feeder highways.

USAID Plans and Activities

USAID has an established program in Brazil to assist in the marketing and storage of agricultural products with special reference to grain. To provide basic information it contracted with the firm, Weitz-Hettelsater Engineers, to make an economic and engineering study of marketing facilities for grain and tuberous crops.

In part, as result of findings of this study, USAID has developed interest in three related areas of work. These are: Training; research; and model storage.

A. A broad study of storage that would consider: Engineering assistance as to equipment, useage, and operation of idle government storage (estimated at 500,000 tons); equipment needs, giving attention to setting up model or demonstration facilities for various types of storage; and the establishment of training centers in warehouse operation in the southern, central, and northern parts of Brazil.

B. Providing detailed engineering plans and financial assistance to establish various types of storage facilities recommended for Brazil.

C. Conducting a program of consumer education in the utilization of new cereal products.

USAID and ETA have two full-time engineers on their staff to conduct its storage program. In addition they have one employee for a six month period on a contractual basis to examine opportunities for effectively reopening idle storage facilities. USAID also is exploring possibilities of a similar contract to study farm supply distribution. Of interest as to storage capacity are projections by Weitz-Hettelsater Engineers of various types of additional storage needed by 1965 and between 1965 and 1975 in Brazil. These were estimated as follows:

<u>Type of storage</u>	<u>Additional storage needed</u> (1,000 tons)		
	<u>By 1965</u>	<u>Between 1965-75</u>	<u>Total Additional</u>
Total elevator	1,468	3,672	5,158
Local grain buying points			
In commercial areas	1,010	1,101	2,120
In non-commercial areas	538	763	1,301
Sub terminal elevator	1,733	722	2,455
Terminal and processing	177	182	359
Port facilities and flour mills	<u>251</u>	<u>400</u>	<u>651</u>
Total	<u>5,004</u>	<u>6,840</u>	<u>12,044</u>

In addition, the Weitz-Hettelsater study indicates the need for constructive additional wheat flour milling facilities to the extent of 104,000 tons per year by 1965 and 254,000 tons per year by 1975.

According to states and type of storage, the distribution of additional storage projected by 1975 is as follows:^{1/}

States or Territories	Type of storage (1,000 tons)						Total
	:Country:	:Local grain points:	:Sub	:Terminal:	:Port	:	
	:Eleva-	:Commer-	:Non-Com-	:Termi-	:and Pro-	:Facil-	
	:tors	: cial	:mercial	:nal	:cessing	:ities	
Para	26	7	31	-	-	20	84
Maranhao	171	85	22	-	-	6	284
Piaui	25	24	33	-	-	-	82
Ceara	37	34	194	-	-	7	272
Paraia	16	17	117	-	-	8	158
Alagoas	10	6	96	-	-	13	125
Sergipe	14	6	29	-	-	-	49
Bahia	18	14	197	-	-	36	265
Minas Gerais	1,142	480	10	664	49	-	2,345
Espirito Santo	50	30	40	-	-	11	131
Rio de Janeiro	111	34	36	-	16	-	197
Sao Paulo	1,032	361	75	522	163	236	2,389
Parana	433	264	51	465	40	47	1,300
Sta. Catarina	213	86	12	223	-	19	553
R.G. do Sul	974	334	-	581	15	33	1,937
Mato Grosso	186	93	24	-	-	-	303
Goiias	700	245	7	-	-	-	952
Rondonia	-	-	3	-	-	-	3
Acre	-	-	9	-	-	-	9
R.G. do Norte	-	-	93	-	-	5	98
Pernambuco	-	-	220	-	-	27	247
Guanabara	-	-	2	-	76	169	247
Amazonas	-	-	-	-	-	14	14
Total	5,158	2,120	1,301	2,455	359	651	12,044

^{1/} Based on data assembled by Weitz-Hettelsatter Engineers. Vol. 1 Chapter X.

USAID has no requests for USDA personnel to assist on general storage problems. This is in part accounted for by the request it has for specialized assistance to cooperatives on problems in this area of work. Also, through its own staff and through special contractual arrangements, it is already working in this field.

Observations

The storage situation in Brazil for agricultural products suggests the following observations:

- A. The low educational level of most Brazilian farmers indicates that country storage should only be recommended where farms are large and adequate technical knowledge is possessed.
- B. The establishment of a really effective storage system will only be realized through effective coordination with additional marketing services. These involve the establishment of price differentials that reflect variations in quality, more efficient use of grades and standards, initiation of useful crop and market reports, effective coordination of the various methods of transportation, and development of a sound and adequate system of credit.
- C. The establishment of realistic agricultural policies that will encourage necessary and desired production.
- D. Consistent with the development of adequate grades and standards, the placing of emphasis on bulk storage of grain.
- E. Additional cold and refrigerated storage to meet the growing needs of fruit and vegetable and poultry and egg farmers.

These observations lead to the following conclusions:

- A. A comprehensive program of storage research and related marketing service should be established by USAID at one of the three universities with which it has contractual agreements to establish agricultural programs in Brazil.
- B. The far reaching impacts of transportation on the agricultural economy of Brazil suggests the need for a special study in this area. Such a study, among other considerations, should give attention to possibilities for more effective coordination of existing transportation costs and means of reducing them, opportunities for improving transportation services, possibilities for developing back hauls, and broad aspects of transportation management.

ENCLOSURE 14 - BRAZIL : GRADES AND STANDARDS

The Departamento de Defesa e Inspecao Agropecuaria (DDIA), Ministry of Agriculture, is responsible for the standardization, classification, and control of agricultural and livestock products. The work of the Department was authorized March 15, 1938, by Decreto No. 334. Standards have been developed for 65 agricultural commodities, but except for cotton, grading is provided only for products shipped out of their original state of origin. The only livestock products for which standards have been developed are wool and charkey (dried beef). In addition, the Brazilian Coffee Institute has developed standards and provides grading services for all coffee exported.

From 1938 to 1958 the Ministry of Agriculture had an agreement with each state whereby state personnel provided grading services. The funds received from performing these services were to be used to strengthen the grading program in each state. However, since Ministry officials believed that some funds were being used for other purposes, most of the state agreements were cancelled in 1958. Since that time, the Ministry has established approximately 100 field offices in 12 states to provide grading services. Most of these offices are in Parana and Rio Grande do Sul. Each grader handles all commodities produced in his area, but according to Ministry officials, each employee's work usually does not exceed five commodities.

During the 1938-58 period, the state of Sao Paulo developed a relatively good grading program. When the system was reorganized in 1958, Sao Paulo was permitted to continue its program with full recognition by the Ministry. Three other states--Minas Gerais, Pernambuco and Mato Grosso--believed that their program also should have been recognized. Consequently, officials in these states are now cooperating only in nominal way with the Ministry's grading program.

Discussions with Ministry officials indicated they believe the classification of products used in the internal market should be extended but that there is insufficient demand for such an extension of services now. Consequently, the Ministry of Agriculture is not likely to devote more of its resources to this area of work. USAID plans are much the same and for about the same reasons; namely, too many other matters have a higher priority than the development and broad application of standards for products utilized in the domestic market. Observations of food products in processing plants and retail outlets indicated that most Brazilians are now relatively unsophisticated in choosing the quality of their food. Throughout the marketing system most purchases are made after close personal inspection by the buyer. Buyers, of course, prefer higher quality products but as yet have not generally been willing to pay price differences that would justify formal government grading of

food products. Some cattle producers indicated in private discussions that a grading system could be used to discriminate against older animals (5-7 years), thereby encouraging the marketing of younger animals (3-4 years). They believe that such a practice would lead to increased beef production. However, the adoption of this practice by packers is not practical until price differentials can be reflected through the marketing system to consumers.

All considered, it appears that standardization efforts would have little support at present. Production and marketing personnel, however, should be aware of the situation and possible benefits of applying standards to agricultural products and try to transmit this knowledge to Brazilians in their day-to-day contacts with them. Also, producer groups, experiment stations, and other interested agencies may request grading and standardization assistance from time to time in evaluating research work.

INCLOSURE 15-BRAZIL: INSTITUTIONAL DEVELOPMENT-ABCAR

There are many organizations engaged in extension or extension type educational activities in Brazil. The national extension system is headed by ABCAR (Brazilian Association of Rural Credit and Assistance) with its affiliated counterpart state extension organizations (ACAR, ANCAR, ASCAR, etc.). The state Departments of Agriculture also conduct extension type work in most states through the FOMENTO organizations. The federal FOMENTO system, now known as the Departamento de Promoco Agropecuaria (DPA), was formerly similar to the state FOMENTO's but has now greatly reduced its extension activities. In addition many institutes, cooperatives, and private businesses employ professional people who provide technical assistance to farmers. State and federal research and demonstration farms conduct demonstrations and have field days for farmers aimed at teaching improved practices.

The extension system in Brazil was started with the development of ACAR (Association of Rural Credit and Assistance) Minas Gerais in December 1948 as a private organization to provide educational work and supervised credit. Several additional state extension organizations were already set up in 1956 when ABCAR was established as a national private, non-profit organization. With the establishment of the national system, the state services maintained most of their autonomy with very limited assistance from the federal level except for funds and general guidance. No program people (technical subject matter specialists) were employed by ABCAR, but ETA and USAID and its predecessor organizations did provide considerable assistance on the development of programs.

The ABCAR system has continued to grow. Currently there are 302 county offices, up 82 from January 1, 1962, when the program was conducted in counties having 23.7 percent of the rural population. In addition the Sao Paulo Extension Service, not affiliated with ABCAR, has about 300 extension offices and about 70 subject matter specialists to assist county staffs. The 5-year expansion plan, started in 1962, provided for the opening of 453 additional county offices during the 1962-1966 period, and the long range USAID goal provides for the installation of an additional 820 offices between 1966 and 1972. If these plans are realized, approximately 25 percent of the municipalities will have offices by the end of the 5-year expansion program and in approximately 50 percent of the municipalities containing 75 to 80 percent of the rural population by 1972. The current objectives of USAID are to have about one ABCAR office for each two counties (Incl. 16).

The ABCAR system, maintaining reasonably good standards for personnel, has apparently operated within an objective framework and seems to be highly regarded by the people. While supervised credit played an important role in the early development several state programs, emphasis on credit varies considerably. In some states where credit is still an important part of the program, an effort is being made to shift from supervised credit to "oriented". Oriented credit is used as a tool in the development of specific farm enterprises.

There are indications that more influence may be exerted on programs from the national level. The federal government and USAID funds now (for FY 1964) provide approximately 60 percent of the total required by the state services and state sources supply about 40 percent (Incl. 17). On the ruling body or Junta of ABCAR the Ministry of Agriculture now has five representatives and two members on each state Junta. Most of the people interviewed were of the opinion that the state extension services were very responsive to working on the most urgent problems of rural people and the system seems to have sufficient safeguards to permit objectivity.

While the extension services were developed initially to serve small and medium size farming units, the program appears to be changing to also serve some of the larger farmers in some states. The dairy program in one area of Minas Gerais includes most of the dairy farmers. River basin areas are being organized in some states with all residents in the areas involved.

From discussions with the Executive Director of ABCAR and state personnel, it would appear that some difficulty may be experienced in programs aimed at reaching and influencing beef cattle producers to make changes in their farming operations. In many of the major beef producing areas, the owners of large ranches do not live on their ranches. Managers of the ranches do not have authority to make changes involving improved practices. Ways need to be explored for reaching and motivating this group of absentee owners. It would appear that the state extension services have been able to reach other groups, including dairy farmers.

The FOMENTO organizations were developed by the state Departments of Agriculture in an effort to expand or develop agriculture through sales of seeds, machinery and related items. In addition, many of these organizations provide technical assistance in areas such as insect and disease control and improved seed. It would appear that the nature and amount of technical assistance provided by FOMENTO varies greatly from state to state, with the professional staff devoting much of their time to technical assistance in some states but relatively little in others. In Sao Paulo, for example, an aggressive FOMENTO system has been developed to take technical information to farmers. This is the only major agricultural state which does not cooperate with the ABCAR system.

The state and federal research and demonstration farms and farms under the Crop and Livestock Promotion Department of the Ministry of Agriculture, which sell breeding stock and seeds and demonstrate improved practices, appear to have reached a very limited number of farmers. Their effectiveness seems to be minimal compared to the results achieved by extension type demonstrations on private farms.

While no detailed appraisal was made of the extension type of technical assistance being carried out by private organization, cooperatives, or quasi-governmental organizations, it would appear from limited observation that some of their work is effective. It would also appear that these groups generally maintain a close relationship with the local agents in the state extension services.

BRAZILIAN ATTITUDE

The attitude of the people generally toward the ABCAR organization appeared, from limited observation, to be good. Possible specialist technical support, nationally for the ABCAR system was discussed with the President and Executive Director of the organization. They believe that specialists from various disciplinary areas should be made available from the USDA to work at the state and national levels in the ABCAR system as well as in the Ministry of Agriculture. Some members of state staffs were of the opinion that such assistance, at the state level, would be of great value to them. At the present time, state extension services employ technical subject matter specialists but the ABCAR does not. In reply to a question dealing with possible support by the ABCAR system of a national program aimed at increased agricultural production which might be carried out by the Ministry of Agriculture and supported by USAID, the Executive Director expressed the opinion that support would be forthcoming and an active program could be carried on throughout the ABCAR system.

Most of the state officials consulted, including the state Secretaries of Agriculture, were enthusiastic about the work of the organization. It would appear that the attitude of many state Secretaries is such that continued support for the projected expansion program can be achieved in the coming years.

The morale and general attitude of the people in the ABCAR system appeared to be good. While it appears that an effort is being made to gear the program to agriculture and rural people's most pressing problems, education and the development of leadership abilities play an important role in the program. Many public officials and others expressed the point of view that the development of rural leadership was one of the keys to the future development of Brazilian agriculture.

It would appear that people in the ABCAR system could and would work effectively as a part of a team to increase the productivity of Brazilian agriculture. An investigation could well be made of methodology by which the Extension Services can reach more farmers. In the 13 states in which extension work was conducted in 1963 only about 77,000 farm families had direct contact with an extension agent.

USDA ASSISTANCE SUGGESTED BY USAID OFFICIALS ^{1/}

In light of the fact that the responsibility for the technical program rests in the states and that ABCAR does not maintain people in technical subject matter areas, the suggestion was made to USDA that any subject matter specialists working with the ABCAR system should work at the state level. This does not necessarily mean that people should be located in each state but in some cases people could work on regional basis with the extension service staffs in two or more states. The USAID staff in Brazil, however, believes that the employment of a specialist staff at the national level is an important objective and apparently will continue to suggest such a move to the ABCAR system JUNTA.

The areas in which the USAID staff suggested that USDA might provide assistance were: Marketing, including cooperatives, animal health (control of livestock diseases); feeds, forage and pasture; and livestock management practices.

Assistance to the Brazilian Extension staff may be provided in specific subject matter areas such as livestock and pasture and forage through a contract with IRI.

^{1/} No direct technical assistance has been specifically proposed in the FY 1964 program by USAID for ABCAR at this time.

INCLOSURE:16 - BRAZIL: LOCATION OF CURRENT & PLANNED OFFICES IN THE ABCAR SYSTEM, AND TOTAL NUMBER OF COUNTIES PER STATE & TERRITORY

States & Territories	Population (1960 Census) (1000 persons)	Counties		
		: Extension Offices		
		Total:	1963 1/	Planned for 1967
		(no)	(no)	(no)
Minas Gerais	9,798	485	81	128
Ceará	3,338	148	30	70
Rio Grande do Sul	5,449	157	27	67
Santa Catarina	2,147	155	45	59
Pernambuco	4,137	123	18	57
Paraíba	2,018	149	11	39
Rio de Janeiro	3,403	63	18	37
Goiás	1,955	179	13	37
Rio Grande do Norte	1,157	115	10	36
Paraná	4,278	243	13	32
Bahia	5,991	194	10	30
Espirito Santo	1,189	40	19	30
Sergipe	760	62	4	20
Alagoas	1,271	74	3	18
Maranhão	2,493	122	-	13
Piauí	1,263	83	-	-
Mato Grosso	910	64	-	-
São Paulo	12,974	505	2/	-
Guanabara	3,307	1	-	-
Pará	1,551	82	-	-
Amazonas	722	82	-	-
Serra dos Aimorés	384	-	-	-
Acre	160	7	-	-
Brazilia	142	1	-	-
Rondonia	71	2	-	-
Amapá	69	5	-	-
Rio Branco	29	2	-	-
Fernando de Noronha	1	1	-	-
TOTAL	70,967	3144	302	673

1/ As of June 30, 1963. Each office covered an average of 1 1/2 counties

2/ São Paulo has about 300 extension offices not affiliated with ABCAR

SOURCE: USAID, ARD, Brazil.

INCLOSURE 17 - BRAZIL: PRESENT AND PROJECTED BRAZILIAN AND USAID FINANCIAL SUPPORT FOR THE ABCAR SYSTEM 1/

Source of Funds	1962	1963	1964	1965	1966	Total
Brazilian share						
Federal sources	383	708	1,908	3,000	5,000	11,099
State level sources	407	710	1,622	2,000	3,000	7,739
AID <u>1/</u>	750	600	750	1,000	1,000	4,100
TOTAL	1,540	2,018	4,280	6,000	9,000	22,938
						109.

1/ Actual expenditures planned through 1964 for USAID and projected AID expenditures for 1965 and 1966. Brazilian support for 1965 and 1966 estimated by USAID.

SOURCE: USAID, ARD, Brazil.

INCLOSURE 18 - BRAZIL: SUMMARY OF POSSIBLE AID CONTRACT PERSONNEL NEEDS FROM USDA

TECHNICIANS	TYPE	LOCATION	CONTACT	PERIOD	NUMBER
					:64 65
<u>Frontier Devel:</u>					
Resources Survey	Soils	Goiás	MA	1 yr.	1 <u>2/</u>
	R.D. Spec.	Goiás	MA	1 yr.	1 <u>2/</u>
	R.D. Spec.	Goiás	MA	3 mos.	4
Resettlement	Reset. Spec.	Recife	MA	5 yr.	4
	Reset. Spec.	Goiás	MA	5 yr.	2 <u>2/</u>
Land Transfer	Agr. Econ.	Rio	MA	5 yr.	1 1
<u>Marketing:</u>					
Coop.	Exten. Trg.	S.P.	MA	5 yr.	1
	Res.-Ext.	Rio	MA	5 yr.	1
	Res.-Ext.	Paraña	MA	5 yr.	1
	Res.-Ext.	S.C.	MA	5 yr.	1
	Res.-Ext.	Goiás	MA	5 yr.	1
	Res.-Ext.	M.G.	MA	5 yr.	1
	Coop. Adv.	Rio	MA	4 wk.	1
Credit	Credit Adv.	Rio	MA	5 yr.	3
Infrastructure	Agr. Econ.	Rio	MA	5 yr.	4
Est. and Forecasts	Agr. Econ.	Rio	MA	6 mo.	1
Market News	Mr. News	S.P.	MA	2 yr.	1
Econ. Analysis	Agr. Econ.	Rio	MA	2 yr.	2
Marketing Study	Mar. Sp.	Recife	MA	6 mo.	2
	Coop. Sp.	Recife	MA	6 mo.	1
	Prod. Econ.	Recife	MA	6 mo.	1
	Credit Spec.	Recife	MA	6 mo.	1
	Agron.	Recife	MA	6 mo.	1
	Livst. Sp.	Recife	MA	6 mo.	1
<u>Livestock Prod:</u>					
Past. and For.	Beef Prod.	Rio	MA	5 yr.	1
		Goiás	MA	5 yr.	1
		M.G.	MA	5 yr.	1
Livst. and Feed	Beef Prod. <u>3/</u>	Goiás	MA	5 yr.	1
	Beef Prod. <u>3/</u>	M.G.	MA	5 yr.	2
	Dairy <u>3/</u>	Rio	MA	5 yr.	1
	Gen. L.P. <u>3/</u>	Goiás	MA	5 yr.	1
	Gen. L.P. <u>4/</u>	Rio	MA	5 yr.	1
	Lvstk. Prod.	Rio	MA	3 mo.	4
Disease Control	Vet.	Rio	MA	5 yr.	1 1
	Vet.	Rio	MA	6 mo.	1
TOTAL	-	-	-	-	-55 <u>5/</u>

1/ Starting dates. 2/ Same people. 3/ Research -Extension. 4/ Extension-training. 5/ Includes 18 short-term or 7 man years. Excludes necessary supporting personnel, or resident Chief of Party and U.S. secretary and 70 percent of one man-year in USDA Washington for administrative back-stopping.

SOURCE: USAID, ARD, proposed FY 1964 program and discussions.

C-O-P-Y

INCLOSURE 19 - BRAZIL: LETTER TO MINISTER OF AGRICULTURE

UNITED STATES DEPARTMENT OF AGRICULTURE
International Agricultural Development Service
Washington 25, D.C.

Rio de Janeiro, November 29, 1963

Your Excellency:

I wish to take this means of expressing the appreciation of the United States Department of Agriculture Survey Team for the wholehearted cooperation of your Ministry in connection with our review of Brazilian agricultural programs.

I especially wish to convey our appreciation for assistance rendered by Dr. Irineu Cabral, Department Heads, and field personnel of the Ministry. Dr. Cabral was advised that the Team would supply him with a copy of the Team report for comments. Copies of the Team's recommendations are attached.

I would like to call your attention to the first point listed under the procedural recommendations. It would be appreciated if you and your staff could review the recommendations and provide a letter along the lines indicated.

On behalf of the Team I want to convey our personal regards and best wishes. We are looking forward to the possibility of working with the Ministry of Agriculture within the framework of the United States Agency for International Development program in Brazil under the Alliance for Progress.

Sincerely,

S/CHARLES R. DAVENPORT
Charles R. Davenport
Team Leader

United States Department of Agriculture
Survey Team

His Excellency
Dr. Oswaldo Cavalcanti da Costa Lima Filho
Minister of Agriculture
Ministry of Agriculture
Largo da Misericordia S/N
Rio de Janeiro - GB

Enclosures (not included)

C-O-P-Y

INCLOSURE 20 - BRAZIL: SUMMARY OF USDA TEAM RECOMMENDATIONS FOR TECHNICAL ASSISTANCE PERSONNEL FROM THE DEPARTMENT

Technicians	Type	Location	Contact	Period	Number 2/		
					FY 64	FY 65	FY 66
PRIMARY RESPONS.							
1. Chief of Party <u>3/</u>	Agr.Econ.-Agrst.	Rio	M.A.	5 yr	1	1	
2. Cooperatives <u>4/</u>	Res-Ext. (Adv.)	Rio	M.A.	5 yr	1		
	Ext. Tng.	S.P.	M.A.	5 yr	1 <u>5/</u>		
	Res-Ext.	Paraná	M.A.	5 yr		1 <u>6/</u>	
	Res-Ext.	S.Cat.	M.A.	5 yr		1 <u>6/</u>	
	Res-Ext.	Goiás	M.A.	5 yr			1
	Res-Ext.	M.G.	M.A.	5 yr	<u>7/</u>		1
	Coop Adv.	Rio	M.A.	S.T.	(.08)	(.25)	(.25)
3. Credit	Cred. Adve.	Rio	M.A.	5 yr	1	1	1
	Cred. Sp.	Rio	M.A.	S.T.		(.3)	(.3)
4. Est. & Forecasts	Agr. Econ.	Rio	M.A.	S.T.		(.5)	(.5)
5. Market News	M. News Sp.	S.P.	M.A.	2 yr		1	
6. Econ. Anal.	Agr. Econ.	Rio	M.A.	2 yr	1	1	
	Agr. Econ.	Rio	M.A.	S.T.		(.3)	(.3)
7. Land Transfer	Land Econ.	Rio	M.A.	5 yr	1	1	
	Specialists	Rio	M.A.	S.T.		(.3)	(.3)
8. Disease Control	Vet.	Rio	M.A.			1	1
	Vet.	Rio	M.A.		(.5)	(.5)	(.5)
ASSISTANCE					<u>8/</u>		
1. Res. Survey	Soils/L.Econ/A.E.	Goiás	M.A.	S.T.	(.5)		
2. Resettlement	Reset. Sp.	Rec					
		Goiás	M.A.	S.T.		(.5)	(.5)
3. Infrasturcture	Agr. Econ.	Rio	M.A.	S.T.		(.25)	(.25)
TOTAL <u>3/</u>					—	—	—
					6 <u>3/</u>	<u>3/</u>	4

1/ Tentative.

2/ Starting year basis. Short-term assistance listed in man-years only in parenthesis and not included in the total, 7.0 man-years.

3/ Includes U.S. secretary in FY 1965 and excludes 70 percent of one man-year in FY 1964 in USDA, Washington, D.C.

4/ Seven resident personnel were included in error in the letter to the Ministry by listing a second advisor in Prio in FY 1965. USAID is aware of this.

5/ Originally listed for FY 1965 but agreed with UASID to recommend for FY 1964.

6/ Originally listed for FY 1966 but agreed with USAID to recommend for FY 1965.

7/ Contingent on and in conjunction with assignment of resident.

8/ Possibly in FY 1965.

SOURCE: USDA Survey Team recommendations.

